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¹ Corrected Plate X distributed with No. 3 (July).

² Distributed with No. 3 (July).

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¹ Corrected plate distributed with No. 3 (July).² Plate XIV distributed with No 3 (July).

BY-LAWS AND RULES OF THE AMERICAN
ORNITHOLOGISTS' UNION.

BY-LAWS.

Article I. Of Members.

Section 1. The membership of the Union shall consist of the following Classes: (1) Fellows, (2) Retired Fellows, (3) Honorary Fellows, (4) Corresponding Fellows, (5) Members, (6) Associates and (7) Patrons.

Section 2. Fellows shall be residents of the United States or Canada, and shall be limited to fifty in number.

Section 3. Retired Fellows shall be persons who, by their own desire and by vote of the Council, have been transferred to this Class from the Class of Fellows.

Section 4. Honorary Fellows shall be limited to twenty-five in number. They shall be chosen for their eminence in Ornithology, and may be residents of any country.

Section 5. Corresponding Fellows shall be limited to one hundred in number, and may be residents of any country.

Section 6. Members shall be residents of the United States or Canada, and shall be limited to one hundred and twenty-five in number.

Section 7. Associates shall be residents of America, and shall not be limited in number.

Article II. Of Officers.

Section 1. The Officers of the Union shall be a President, two Vice-Presidents, a Secretary, a Treasurer, and seven Councilors. These officers, together with the Ex-Presidents, shall constitute the Board of Management or Council of the Union, for the transaction of such business as may be assigned to it by the By-Laws or by the Union.

Section 2. The President or, in case of his absence or inability to act, one of the Vice-Presidents shall preside at the meetings of the Union and of the Council, and shall appoint all Committees except such as are otherwise provided for.

Section 3. The Secretary shall keep a record of the meetings of the Union and of the Council; shall give at least three weeks' notice to the Fellows, Retired Fellows, Members and Associates of the time and place of meetings, shall report to the Council all nominations for membership received by him, and, at least three weeks before each Stated Meeting, shall send to each Fellow a list of the nominees for the classes of Fellows and Members, and to each Member a list of the nominees for the Class of Members, with a statement of the residence of each nominee and the names of the Fellows or Members signing his nomination; and also shall notify the Fellows of all proposed changes in the By-Laws; shall notify all members-elect of their election, and Committees of their appointment; shall acknowledge all donations to the Union, and report the same at the next Stated Meeting; and he shall have charge of the corporate seal of the Union.

Section 4. The Treasurer shall receive all moneys due or payable to the Union, and shall pay all accounts against it when the same have been approved by the President. He shall receive officially all moneys given or bequeathed to the Union, and shall transmit all principal to the Trustees. He shall make a report of receipts and disbursements to the Union at each Stated Meeting.

Section 5. Vacancies occurring in any office may be filled by the Council until the next annual election.

Article III. Of Meetings.

Section 1. Stated Meetings of the Union shall be held annually, at such time and place as the Union may determine. The time and the place for any Stated Meeting, appointed by the Union, may be changed by the Council by a two-thirds vote of its members. Special meetings shall be called by the Council as occasion may require, due notice thereof being given by the Secretary.

Section 2. In meetings of the Fellows a quorum for the transaction of business shall consist of ten Fellows; in meetings of the

Fellows and Members it shall consist of fifteen Fellows and Members.

Section 3. Five members of the Council shall constitute a quorum for the transaction of business.

Section 4. The scientific meetings of the Union shall be open to the public, unless otherwise ordered by a majority of the Fellows and Members present.

Section 5. A Stated Meeting of the Council shall immediately precede each Stated Meeting of the Union. Special meetings of the Council may be called by the President and Secretary, or by any four members of the Council.

Article IV. Of Elections, Resignations, and Expulsions.

Section 1. All elections shall be by ballot. Officers, Fellows, Honorary Fellows and Members shall be elected individually.

Section 2. All Officers shall be elected annually; the term of office shall begin immediately after the election, and the Officers shall continue in office until their successors are elected.

Section 3. Elections of Officers are to be held as follows: In each case nominations shall be made by means of an informal ballot, the result of which shall be announced by the Secretary; after which the first formal ballot shall be taken.

In the ballot for Vice-Presidents, and for members of the Council, each voter may write on one ballot as many names as there are Officers to be elected, viz., two on the first ballot for Vice-President, and seven on the first ballot for members of the Council; and on each subsequent ballot as many names as there are persons yet to be elected; and those persons who receive the votes of a majority of the Fellows and Members voting shall be declared elected, provided that the number of persons receiving such majority does not exceed the number of persons to be elected, in which case the vacancies shall be filled by the candidates receiving the highest majorities.

If in any case the informal ballot result in giving a majority for any of the candidates, it may be declared formal by a majority vote.

Section 4. Nominations to the classes of Fellows and Members

shall be made in writing; each nomination for Fellow or Member shall be signed by three Fellows or Members; shall state the candidate's name in full, and his residence; and shall be delivered to the Secretary at least three months prior to the Stated Meeting at which it is to be voted on.

The Secretary, in sending Fellows the names of nominees to the Class of Fellows, shall inclose a printed Australian ballot bearing the names of the nominees, an inner unmarked envelope, and a return envelope addressed to himself. From the names in nomination each Fellow shall indicate his choice for not to exceed five nominees, and shall return the same to the Secretary in the envelopes provided for the purpose (his name to be inscribed on the outer envelope, the inner envelope to be sealed but not marked). At the next Stated Meeting of the Union the ballots so received by the Secretary shall be delivered by him, in the original sealed envelopes, to the tellers appointed by the President; said tellers shall open and count the ballots, and only such names as have received fifteen or more votes on the preliminary ballot shall be balloted for by the Fellows present at said Meeting.

Section 5. Elections to the classes of Fellows shall be held in the following manner: The number to be elected shall be first decided by a majority vote of the Fellows present at the Stated Meeting at which the election is to be held, but not more than five Fellows shall be elected in any one year.

At each ballot each Fellow present may vote for nominees not exceeding the full number of vacancies to be filled, and the person receiving the highest number of votes shall be declared elected, provided that he receives the votes of at least three-fourths of the Fellows present, and so on until all the vacancies are filled. Any candidate who, in each of ten successive ballots, fails to receive the votes of half of the Fellows present shall cease to be a candidate during the remainder of the Stated Meeting.

The election may be suspended at any time by a majority vote of the Fellows present.

During election a discussion of the merits of nominees will be in order.

Section 6. Elections to the class of Members shall be held in the following manner: The number to be elected shall be first

decided by a majority vote of the Fellows and Members present at the Stated Meeting at which the election is to be held, but not more than five members shall be elected in any one year.

At each ballot each Fellow and Member present may vote for nominees not exceeding the full number of vacancies to be filled, and the person receiving the highest number of votes shall be declared elected, provided that he receive the votes of at least three-fourths of the Fellows and Members present, and so on until all the vacancies are filled. Any candidate who, in each of ten successive ballots, fails to receive the votes of half the Fellows and Members present, shall cease to be a candidate during the remainder of the Stated Meeting.

The election of Members may be suspended at any time by a majority vote of the Fellows and Members present.

During election a discussion of the merits of nominees will be in order.

Section 7. The nomination of Honorary Fellows, Corresponding Fellows, and Associates shall be made by the Council to the Union, and such members shall be elected by ballot, and the affirmative votes of three-fourths of the Fellows and Members present shall be necessary to a choice. Honorary and Corresponding Fellows shall be enrolled upon signifying acceptance of membership.

Proposals for the class of Associates may be made to the Council through the Secretary by any Fellow or Member.

Section 8. Fellows only shall be eligible to office. Members shall share with Fellows the right to vote and to take part in the business of the Union, except that Members shall not take part in the election of Fellows, nor in the amendment of By-Laws.

Retired, Honorary and Corresponding Fellows, Members, and Associates may attend meetings, present papers, and take part in the scientific proceedings of the Union.

Section 9. Every Honorary and Corresponding Fellow-elect shall notify the Secretary of his acceptance of membership within one year, and every Fellow-elect, Member-elect and Associate-elect within six months, from the date of election; in default of which notification, his name shall not be entered on the roll of members.

Section 10. Resignations shall be addressed to the President and acted on by the Council.

Section 11. Any member may be expelled from the Union on satisfactory evidence that said member is an improper person to be connected with the Union, or has made improper use of his membership; such expulsion shall be by a two-thirds vote of the Fellows present at a Stated Meeting, three months previous notice of such proposed action having been given by the Secretary to each Fellow and to the member accused.

Article V. Of Fees and Assessments.

Section 1. The annual dues shall be for Fellows five dollars, for Members four dollars and for Associates three dollars.

No dues shall be required of Retired, Honorary, or Corresponding Fellows.

Section 2. The annual assessment for the ensuing year shall fall due on the first day of each Stated Meeting, and shall be in arrears if not paid in ninety days thereafter.

Section 3. No Fellow, nor Member, in arrears for dues, shall be entitled to vote or take part in the business of any meeting.

Section 4. The name of any member one year in arrears for dues shall be removed from the roll of membership; provided that two notices of indebtedness shall have been given him by the Treasurer, at intervals of three months.

Section 5. Fellows, Members and Associates not in arrears for dues, and Retired Fellows, shall receive the regular serial publication of the Union, entitled 'The Auk,' gratis. All the publications of the Union shall be sent gratis to Honorary Fellows.

Section 6. Life membership, exempting the holder from all further fees or assessments, may be obtained by a Fellow on payment of one hundred dollars, by a Member on payment of seventy-five dollars, or by an Associate on payment of fifty dollars. But any Member or Associate, in event of his election to a higher class of membership, must then pay such additional sum as will make his total payments for life membership equal to the amount required for the class to which he is elected. In default of such payment his life membership lapses; but in that event there shall

be credited toward his future annual assessments, any excess there may be in the amount he has already paid for life membership over that which he otherwise would have paid as annual assessments during the time he has held life membership.

Section 7. Any person desirous of furthering the aims of the Union may become a Patron thereof on payment of the sum of one thousand dollars, and his name shall be perpetually inscribed upon the records of the Union.

Article VI. Of Scientific Communications and Publications.

Section 1. The Union may publish, under the direction of the Council, a serial journal of Ornithology, called 'The Auk,' and such reports, proceedings, memoirs, and other works on Ornithology as the Council may authorize.

Section 2. Communications on Ornithology may be read at the Stated Meetings of the Union, by any member, or for him by any other member, notice of the same having been previously given to the Secretary.

Section 3. Any member may read a paper for a person who is not a member, and shall not be considered responsible for the facts or opinions expressed by the author, but shall be held responsible for the appropriateness of the paper. Persons who are not members may read papers on invitation of the President, and with the approval of the Committee of Arrangements.

Section 4. The Secretary shall receive at any time scientific papers for presentation at the Stated Meetings, and shall report the date of their reception at the next Stated Meeting. But such papers shall date, in the records of the Union, from the date of their presentation to the Union; their order of presentation shall be that in which they were registered, unless changed by the Council.

Article VII. Of the Property of the Union.

Section 1. A board of three Trustees elected by the Council at each Annual Meeting shall hold all the funded property of the Union in trust with power to sell and to reinvest according to their judgment.

Section 2. No contract shall be binding upon the Union which has not been authorized by the Council. No liability exceeding one thousand dollars, nor total debt exceeding two thousand dollars, shall be incurred by the Council without the formal consent of the Union as expressed by a majority vote at a Stated Meeting.

Section 3. Bequests and trusts having for their object the advancement of Ornithology, may be accepted and administered by the Union. Such devices, bequests, donations, or gifts having for their object the promotion of science or the welfare of the Union, may be accepted by the Council for the Union. Before acceptance of any such trust the Council shall consider the object of the trust and all conditions or specifications attached thereto, and shall make a report of its action to the Union. Unless otherwise provided by the deed of gift, the income of each trust fund shall be applied to the objects of that trust by the action of the Union on the recommendation of a standing committee of that fund.

Article VIII. Of Additions and Amendments to the By-Laws.

Notice of proposed Additions or Amendments to the By-Laws must be in writing, signed by two Fellows, and must be given at a session of the Fellows in a Stated Meeting of the Union. All such propositions shall be referred to the Council, which may amend the propositions, and shall report thereon to the Fellows at the same session. Its report shall be considered by the Fellows in committee of the whole for amendment. The proposition, as amended, if adopted in committee of the whole, shall be voted on by the Fellows at the next Stated Meeting, and if it receive two-thirds of the votes cast it shall be declared adopted.

Absent Fellows may send their vote on pending changes in the By-Laws to the Secretary in writing, and such votes shall be counted as if the Fellows were present.

RULES.

I. In the absence of any officer at a Stated Meeting a Fellow shall be chosen to perform his duties *pro tempore* by a plurality of *viva voce* votes, upon open nomination.

II. The order of business at Stated Meetings shall be as follows:—

First Day's Session.

The first session of each Stated Meeting shall be a meeting of the Fellows, for the election of Fellows, and the amendment of By-Laws.

The second session of each Stated Meeting shall be the annual business session, for the reception of the reports of the Secretary and Treasurer, the election of officers and members, and action on business reported from the Council, or such other business as may be brought before it, to which session only Fellows and Members shall be admitted. When not otherwise ordered, the annual business session shall be held on the day preceding the first public session.

1. Chair taken by the President, or, in his absence, by one of the Vice-Presidents.

2. Roll-call of Fellows and Members by the Secretary.

3. Reading and approval of the minutes of the previous meeting.

4. Selection of time and place of next Stated Meeting.

5. Report of the Secretary.

6. Report of the Treasurer.

7. Report of the Council, including nominations for membership and other business or recommendations.

8. Election of officers for the ensuing year.

9. Election of members.

a. Honorary Fellows.

b. Corresponding Fellows.

c. Members.

d. Associates.

10. Action on business reported from the Council.

11. Appointment by the President of a Committee of three to audit the accounts of the Treasurer.

12. Appointment by the President of a Committee on Resolutions.

13. Reports of Committees.

14. Miscellaneous business.
15. Adjournment.

Second and Third Days' Sessions.

1. Chair taken by the President, or, in his absence, by one of the Vice-Presidents.
2. Roll-call of Fellows and Members by the Secretary.
3. Reading and approval of minutes of previous day's session.
4. Report of the Auditing Committee.
5. Report of the Council.
6. Action on business reported from the Council.
7. Reports from Committees.
8. Miscellaneous business.
9. Presentation and discussion of scientific papers, or remarks.
10. Adjournment.

Last Day's Session.

1. Chair taken by the President, or, in his absence, by one of the Vice-Presidents.
2. Roll-call of Fellows and Members by the Secretary.
3. Reading and approval of minutes of previous day's session.
4. Appointment by the President of a Committee, consisting of three Fellows or Members, to co-operate with the President and Secretary as a Committee of Arrangements for the next Stated Meeting.
5. Report from the Council.
6. Action on business reported from the Council.
7. Reports of Committees.
8. Miscellaneous business.
9. Presentation and discussion of scientific papers, or remarks.
10. Reading and correction of the minutes of the day's session.
11. Adjournment.

III. The business portion of each day's session shall be open to Fellows and Members only.

IV. The Rules of Order of the Union shall be those of the United States Senate, unless suspended by unanimous consent.

V. The order of business at any session of the Union may be varied from the above, by a two-thirds vote of the Fellows and Members present.

VI. The claims and qualifications of nominees for membership may be discussed before the Union, but such discussions shall be held as strictly confidential.

VII. There shall be a Committee on Publications, consisting of the President, Secretary, Treasurer, Editor, and Assistant Editor, who shall have charge of the printing of the Union, under the direction of the Council.

VIII. A Committee on Communications consisting of three Fellows or Members shall be appointed by the President each year, which shall receive from the Secretary all papers sent to him, from which said Committee shall select those to be read at the next Stated Meeting.

IX. The publication of the Quarterly Journal, 'The Auk,' shall be in charge of the Council, which, at each Stated Meeting of the Union, shall appoint the editorial staff for the ensuing year, and shall authorize the editorial staff to secure a competent publisher, and otherwise provide for the proper publication of the Journal.

X. Any of the above Rules may be amended, suspended, or repealed, on the written motion of two Fellows or Members signed by them, and presented at a Stated Meeting of the Union, in case the same shall be approved by a two-thirds vote of the Fellows and Members present.

CERTIFICATE OF INCORPORATION
OF THE
AMERICAN ORNITHOLOGISTS' UNION.

THIS IS TO CERTIFY that we whose names are hereto subscribed, citizens of the United States, and a majority of whom are citizens of the District of Columbia, have associated ourselves together, pursuant to the provisions of Section 545 to 552 inclusive of the Revised Statutes of the United States relative to the District of Columbia, and under an Act to amend the Revised Statutes of the United States, approved April 23, 1884 (23d Statutes at Large, p. 13), as an Association and body corporate, to be known by the corporate name of THE AMERICAN ORNITHOLOGISTS' UNION, for the term of ninety-nine years.

The particular objects and business of this Association are the advancement of its members in Ornithological Science; the publication of a journal of Ornithology and other works relating to that science; the acquisition of a library; and the care and collection of materials relating to the above objects, under the restrictions and regulations established in its By-Laws.

The affairs, funds, and property of the corporation shall be in the general charge of a Board of Management, the number of whose members for the first year shall be twelve, consisting of a President, two Vice-Presidents, a Secretary, a Treasurer, and seven other members, styled Councilors, all of whom shall be chosen by ballot from among the members, at the annual meeting. The duties of these officers, and of other officers and standing committees, and the terms and manner of their election or appointment, shall be provided for in the By-Laws.

WITNESS OUR HANDS AND SEALS, this fourteenth day of November, Eighteen hundred and eighty-eight:

| | |
|-------------------------|---------------------------|
| ROBERT RIDGWAY (Seal) | C. HART MERRIAM (Seal) |
| HENRY W. HENSHAW (Seal) | LEONHARD STEJNEGER (Seal) |
| ALBERT K. FISHER (Seal) | |

Witness to all signatures
JNO. D. MCCESNEY.

DISTRICT OF COLUMBIA, SS:

I, John D. McChesney, a Notary Public in and for the District aforesaid, DO HEREBY CERTIFY That Robert Ridgway, Henry W. Henshaw, C. Hart Merriam, Leonhard Stejneger, and Albert K. Fisher, parties to a certain Certificate of Incorporation bearing date on the fourteenth day of November, A. D. 1888, and hereunto annexed, personally appeared before me, in the District aforesaid, the said Robert Ridgway, Henry W. Henshaw, C. Hart Merriam, Leonhard Stejneger, and Albert K. Fisher being personally well known to me to be the persons who executed the said Certificate, and acknowledged the same to be their act and deed.

Given under my hand
and notarial seal, this
14th day of November,
A. D. 1888.

JNO. D. MCCHESENEY,
(Seal) *Notary Public.*

OFFICE OF RECORDER OF DEEDS,
DISTRICT OF COLUMBIA.

Received for Record Nov. 15, 1888, at 10.41 A. M.

Recorded in Liber No. 4, folio 382, Act of Incorporation Dist.
of Col.

Examined by

JAS. M. TROTTER,
Recorder.

JAN 1 1927

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Vol. LII

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New
Series,
Vol. XLIV

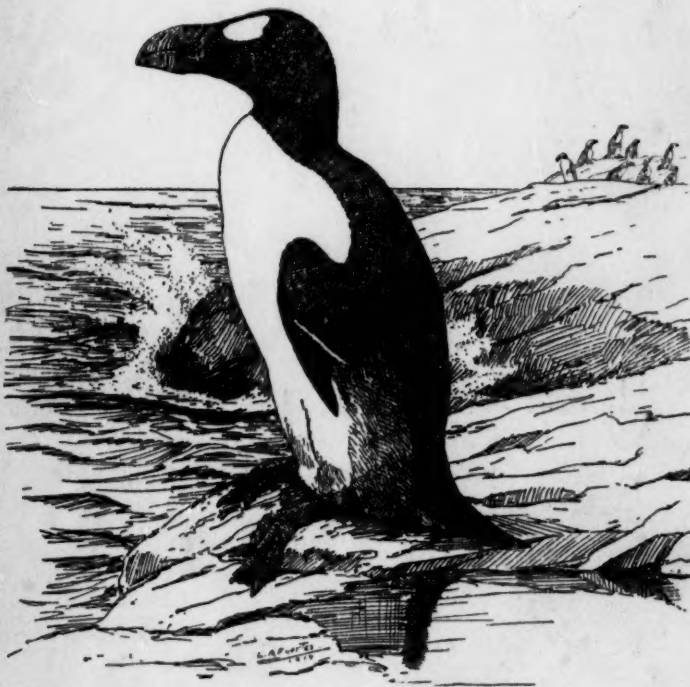
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1. GLACIATED COUNTRY NEAR HEAD OF MUIR INLET. SNOW BUNTINGS, LEUCOSTICTES AND WILLOW PTARMIGAN WERE NOTED HERE.
2. MT. JUNEAU WITH SPUR OF MT. ROBERT ON RIGHT. JUNEAU AT BASE OF MOUNTAIN AND DOUGLAS IN FOREGROUND.

THE AUK:

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No. 1.

NOTES ON THE BIRDS OF SOUTHEASTERN ALASKA.

BY ALFRED M. BAILEY.

(*Plates I-III*)

SOUTHEASTERN ALASKA is an ideal field for the bird student, for in addition to interesting forms of life in an almost untouched country, he is working in the most beautiful part of North America. The region, a narrow strip of mainland with its precipitous mountains and hundreds of off-lying islands, is set apart, climatically, from the rest of Alaska; the winters are comparatively mild with an excessive amount of humidity, and the summers are cool. Consequently, a luxurious vegetation flourishes along the whole coast, the undergrowth oftentimes making an almost impenetrable barrier. Spruces, hemlocks and cedars are the principal trees, with cottonwoods, willows and balm-of-Gilead along the streams, and a tangle of blueberry, salmon-berry, alder and devil-club on the hillsides. The mountains are very precipitous in places, rising abruptly from sea level to over four thousand feet in elevation; deep fiords and land-locked harbors abound, while great glaciers add to the scenic attractions. Muir and Taku Glaciers are well known as "live" glaciers, Mendenhall is a typical "dead" glacier, while there are many small "mountain glaciers" which seem as though suspended high up on the mountain sides. Naturally, all these great barriers of ice have a great influence on the life of the surrounding regions. I know of no other territory which offers such possibilities to the field man as does southeastern Alaska. While several summer expeditions have worked the country as a

whole, the surface has barely been scratched, and there are very few late fall, winter and early spring records from the northern part of the territory. While the climate is mild, for the most part, that of the northern section, from Frederick Sound northward, is more severe than to the south; strong winds,—known in the vicinity of Juneau as “the Taku,” make water work extremely hazardous during the winter days, and collecting is not a particularly enjoyable occupation. But in retrospect it is an interesting experience and I number my field days in southeastern Alaska as among the most enjoyable I have had. The white people are always hospitable and glad to aid one; the natives, generally, are a good natured lot, although they have become suspicious of the white man, doubtlessly due to many impositions at his hands, and little information is to be gained from them.

Bird life is not varied, and except during migration time, birds are extremely scarce. The great woods, which seem so favorable for feeding and places of refuge, are almost barren, and during the winter, only a few species are at all common. Siskins, Cross-bills, Chickadees and Kinglets are common winter birds, but one might walk for hours along the rough trails without even hearing one. At times, the species are numerous, of course, but generally speaking, the winter months drag slowly and are unfruitful to the ornithologist, unless notes of a negative character are to be considered of value. Water birds are more abundant,—but we must add “locally,” for they will be seen in numbers only in favorable places. The cold, violent winds sweep down the narrow channels, causing the birds to settle in sheltered bays, where they are rarely seen during a day’s travel, along the main boat highways. In the springtime, the small forms seem to linger south as long as possible, and then great hosts of them arrive and start their nesting operations immediately, while all the sea birds desert the inland waters and congregate at their favorite breeding places. The majority of the sea fowl nest on islands, although a few use the precipitous mainland cliffs. Forrester Island is probably the largest breeding island and supports a greater life than any other; the islands of Glacier Bay are also well populated with breeding birds.

The spring migration is soon over and the nesting season well advanced almost before one realizes it. The fall movement of

birds is more leisurely, the non-breeding individuals appearing first, and then the waves of northern adults and young straggle through. During September, there is a pronounced "mountain-top migration," where many species occur commonly, which are rarely seen at sea level.

These notes were made while I was a representative of the U. S. Biological Survey, with headquarters at Juneau, and are published through the courtesy of Dr. E. W. Nelson, Chief of the Survey. Because of Dr. Nelson's years of interest in Alaskan work, I was given every encouragement to cover as much territory as possible, and so, during the year and a half covered by these notes, from November 1919 to April 1921, I was privileged to work in many sections. Mr. George Willett has done more work in southeastern Alaska than any other naturalist, but his has been confined more or less, to the southern portion, while the greater part of my time was spent north of Frederick Sound; the 1907 and 1909 Alexander Expeditions covered a large part of the field, and the personnel of these expeditions is sufficient proof that the ground was well worked. With all the collecting done in southeastern Alaska, however, there has been little duplication; the northern expression—"our trails crossed," is an apt one, for though possibly a dozen "bird men" have worked in the region, the possibilities for further study are unlimited. There are few winter notes from the northern section. A gasoline boat is a necessity to the collector, and a large list of species is to be obtained only by visiting many localities. On the other hand, while birds of a given spot may be few in number, there are several localities where intensive work should be carried on, to work out the life histories of little known species. Glacier Bay, to my mind, is an ideal field. Several southern breeding records could be made there, I am sure.

I am indebted to Dr. Harry C. Oberholser for kindly identifying the doubtful specimens, and to Messrs. George Willett, George Foltz and John S. Young for many favors; they have all been companions on various field trips, and have kindly loaned me a few of their photographs to accompany this article.

No effort has been made to compile the work of others, but I have included a few observations of Mr. Willett and Mr. Fred Gray of Wrangell. My bird observations were merely incidental to other

inspection work, and I have no doubt that any naturalist could add many records to my list, in covering the same territory. Conditions change, according to the seasons; southeastern Alaska is still primitive when one leaves the vicinity of the villages, and so, it offers an attractive field for biological observations.

ITINERARY.

| | |
|---|---|
| Nov. 11-15, 1919 | Juneau and vicinity |
| Nov. 16 | Taku Harbor |
| Nov. 18-24 | Keku Strait (between Kupreanof and Kuiu Islands) |
| Nov. 25-29 | Wrangell |
| (December 1919 spent up the Copper River, interior Alaska.) | |
| Jan. 1-Feb. 2, 1920 | Juneau and vicinity |
| Feb. 3-9 | Oliver Inlet, Admiralty Island |
| Feb. 9-21 | Juneau and vicinity |
| Feb. 23 | Sitka |
| Feb. 25-March 3 | Wrangell and vicinity |
| March 4-6 | Keku Strait—Kupreanof Island |
| March 7-13 | Shakan, Dry Pass, Klawack, Craig— (Prince of Wales Island), Suemez Island. |
| March 17-April 10 | Juneau and vicinity |
| April 11-26 | Wrangell and Stikine Flats |
| April 27-May 6 | Juneau and vicinity |
| May 7-24 | Hooniah Sound, Chicagof Island |
| May 25-June 3 | Juneau and vicinity |
| June 3-9 | Mendenhall Glacier |
| June 10-11 | Skull Rock, Canoe Pass, Excursion Inlet |
| June 12-20 | Glacier Bay |
| June 21 (and Aug. 8) | Mud Bay, Chichagof Island |
| June 27-28 (and July 4) | Taku Glacier |
| June 26-July 6 | Juneau and vicinity |
| July 9-21 | Forrester Island |
| July 27-Aug. 7 | Juneau and vicinity |
| August 8-15 | Glacier Bay |
| August 17-22 | Juneau and vicinity |

| | |
|----------------------|--|
| August 23-26 | Along Stephens Passage and Lynn Canal |
| August 28-Sept. 1 | Twin Points, Admiralty Island |
| Sept. 2-25 | Juneau and vicinity |
| Sept. 26-Oct 2 | Holkham Bay, Tracy Arm, Seymour Canal, and Taku Harbor |
| Oct. 3-19 | Juneau and vicinity |
| Oct. 9-16 | Glacier Bay |
| Oct. 17-24 | Juneau and vicinity |
| Oct. 25-29 | Kootznahoo Inlet (west coast Admiralty Island) |
| Nov. 1-Dec. 27 | Juneau and vicinity |
| Dec. 28-Jan. 8, 1921 | Wrangell and vicinity |
| Jan. 9-15 | Juneau and vicinity |
| Jan. 16-19 | Hobart Bay, Portage Bay, Petersburg, Sokoi Island and Shettisham |
| Jan. 20-April 1 | Juneau and vicinity |

All dates given in the bird notes refer to 1920 unless otherwise specified.

DESCRIPTION OF LOCALITIES.

There is a great similarity in the regions visited; the mountains are more or less alike, with precipitous walls, heavy stands of timber and impenetrable growths of alder and berry bushes. There are small bars at the mouths of the various mountain streams and the collector is almost always assured of a good camping site. One should always be supplied with a large scale chart of the region being worked, and have a tide table. There is little need for detailed descriptions of the various regions, and so I am confining myself to a brief account of locations which we visited.

Juneau, the Capitol of Alaska, is a little town of three thousand people. It is situated at the foot of Mt. Juneau, and of Mt. Robert, two hills which rise abruptly some 4000 feet from sea level; it is a very picturesque little city with half the business part of town built upon pilings over Gastineau Channel. Well made trails wind along the beach, giving easy access to the Mendenhall Bar, five miles to the north, and Mendenhall Glacier, fifteen miles away. Gold Creek has cut a great canon, which separates Mt.

Juneau and Robert, and several miles inland are the Granite Creek Mountains. Salmon and Lemon Creeks are about five and ten miles up the beach, respectively; the mountains of this region are all precipitous, their lower slopes being well clothed in alder and devil club, and heavy stands of spruce. Timber line is approximately eighteen hundred feet. Tides throughout the region run well over twenty feet, between the low and high, so the boatman must choose his anchorage with care; the beaches are usually rocky, and often very steep. Down channel from Juneau is the little town of Thane, with Sheep Creek Basin a high valley a few miles inland. Across the channel from Thane is the town of Douglas, now practically abandoned, on Douglas Island.

Taku Inlet, at the head of which is the famous Taku Glacier and the dead Norris Glacier, enters Stephens Passage some fifteen miles below Juneau.

Across Taku Inlet, and a few miles below on the mainland shore is Taku Harbor. This is a land-locked haven much appreciated by boatmen, for even the largest passenger steamers take shelter when "the Taku" blows.

Keku Strait is a narrow, rocky channel between Kuiu and Kupreanof Islands. It is a beautiful and picturesque place, with high wooded hills on either side. The climate is milder in this vicinity than near Juneau, so an abundance of wild life is found,—the call of the Loon and the howl of the Alsakan wolf are familiar to all who have hunted there.

The little town of Wrangell, on Wrangell Island, is near the mouth of the Stikine River. The hills are not so steep as elsewhere, and the woods are more open. Water birds are abundant in the channels between the various nearby islands.

Oliver Inlet is a deep cleft on the north shore of Admiralty Island, where the tides run to and fro with great speed. It is a fine collecting spot with wide, open parks, heavy woods, and favorable places for water fowl.

Shakan is a small village on the inner shore of Kosciusko Island, and Dry Pass is a very narrow water way between this island and Prince of Wales Island. Klawack and Craig are small villages on the west shore of Prince of Wales.

Our work on Chichagof Island was carried on in Hooniah Sound.

It is a large body of water extending in a northwest and southeasterly direction off Peril Strait, and is separated from Lisianski Strait on the Pacific side of Chichagof by only a narrow neck of land. Consequently, it offers an ideal migration route for water birds, for many of them would naturally cut into Chatham Strait, following up Peril Strait into the sound, and then over the divide to the open ocean. Landlocked bays border the sound, which proved ideal loitering places for thousands of water fowl, bays which are so isolated that they give almost absolute immunity from man. Swift mountain streams have built wide bars at their mouths which offer inducements to shore birds, while small fresh water ponds proved attractive to other forms.

Mendenhall Glacier is a "dead" glacier some fifteen miles above Juneau; it is about two miles in width and has high mountains, densely wooded, on either side. The Mendenhall River, which runs from the glacier, has cut its bed through the glacial debris, and has built a large bar, a favorite resort of many water birds.

Skull Rock is a small, precipitous rock in Stephens Passage, off Young's Bay on the northern shore of Admiralty Island; Canoe Pass is a very narrow water way, navigable at high tide for small motor boats, if one is fortunate, on the tip of Point Couverton. This is the peninsula on the mainland shore at the meeting place of Chatham and Icy Straits.

Excursion Inlet, on the mainland shore of Icy Strait about half way from Point Couverton to Glacier Bay, is a narrow fiord, with densely wooded hills on either side. The banks are very steep in places, great walls of rock, rising from deep water, so one cannot follow the beach at any stage of the tide.

Strawberry Point is a long needle-like peninsula extending into Icy Strait, forming the east shore of Glacier Bay; the trees are small spruce, grown in the memory of the oldest Indians, who claim to remember when no trees existed. The point is known historically as an old battle ground between two Indian tribes, but is more popular for the excellent strawberries which grow in abundance.

Glacier Bay is a large body of water headed with great ice-sheets, Muir Glacier being the most famous. These glaciers have been very active, and some years ago, at the time of the Katmai eruption, if I remember correctly, five miles of the glacier broke off at

one time. The head of Muir Inlet is a sterile region, and one can see the remains of old forests which have been covered over by the ice. The extensive moraines near the glaciers are favorite nesting sites for many birds. Both shores of the bay are cut up with numerous harbors, and great valleys extend back between the high hills on the east shore. The large islands dotting the bay are the breeding grounds of a multitude of sea birds. Willoughby Island is probably the largest, and it proved to be very precipitous on its western slope, where the Gulls nested. The summit is round and worn from ice action, and even the most level slopes hold but little soil or vegetation. The summit and crevasses were filled with snow (middle of June) and but scant vegetation grows above 1000 feet elevation. The highest peak is approximately 1700 feet in height. While the western slope has but little vegetation, dwarfed spruces and alders, the opposite side is well clothed with alders, cottonwoods and spruces. Small flowering plants were conspicuous on the sterile slopes of both sides.

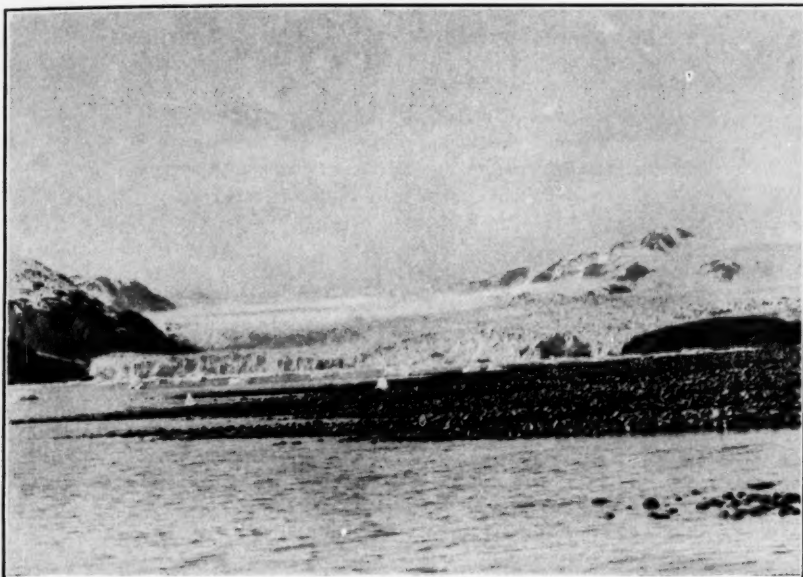
Bartlett Cove is on the east shore of the bay, not far from Strawberry Point, and a few miles above the cove are the Beardslee Islands. The outermost island, a favorite place for sea birds, has broad expanses abruptly interrupted by small steep-walled valleys. The islands are covered with alders, and small bushes, and along the beaches are stands of tall grass,—a favorite resort of Fox and Song Sparrows. An Eagle's nest with two young was seen in one of the small spruces on the outer island, big Blue Herons were noted along the beach, and Geese were of common occurrence.

Seymour Canal is a great waterway in the inner side of Admiralty Island, while across the channel on the mainland shore is Sumdum, Tracy Arm and Holkham Bay.

Forrester Island, probably the best known and largest of the bird islands of southeastern Alaska, is about twelve miles off shore from Dall Island. Good descriptions of this island have been written and the reader is referred to the articles of Professor Harold Heath and George Willett (see bibliography).

ANNOTATED LIST OF BIRDS.

Colymbus holboellii. HOLBOELL'S GREBE.—This species was observed commonly during the spring, fall and winter months, and several



1. MUIR GLACIER, GLACIER BAY. SHORT-BILLED GULLS AND SEMIPALMATED PLOVERS NESTED ON MORaine IN FOREGROUND.
2. MENDENHALL RIVER IN JUNE, FIFTEEN MILES NORTH OF JUNEAU.



specimens were collected. They were recorded from Taku Harbor, Keku Strait and Sumner Strait November 1919; from Juneau, Tee Harbor, Peril Strait and Wrangell in February 1920; from Keku Strait, Craig and Hyدابurg during March; at Wrangell the 11-18 of April; in Stephens Passage and Seymour Canal September 25 to October 1, and in Stephens Passage, Icy Strait, Glacier Bay and Kootznahoo Inlet during the month of October. Others were observed in Taku Harbor, Rocky Pass and Sumner Strait in November, one at Wrangell January 3, 1921, and another at Portage Bay January 15.

Colymbus auritus. HORNED GREBE.—This agile little bird is not as common as Holboell's Grebe, but never-the-less includes all of southeastern Alaska in its range. Willett tells me they winter near Craig, and I saw one there March 9 in winter dress. At Hooniah Sound they were fairly plentiful in May, not a day going by that three or four were not seen, all in high plumage, as were those in Glacier Bay in June. Several were observed in Keku Strait November 18, 1919 and one in the same locality March 5, 1920. They were noted daily in Hooniah Sound May 7-24, and in Glacier Bay June 11-26; several were seen at Midway Island (Stephens Passage) and about thirty in Seymour Canal September 29-30. A few others were noted in Stephens Passage, Glacier Bay and Kootznahoo Inlet during October; one was seen at Wrangell January 3, 1921, and another collected in Hobart Bay January 15.

Gavia immer. LOON.—These large divers are fairly common and are to be noted during all months of the year. They were especially plentiful in Keku Strait and near Petersburg. Although their distribution is general, one might travel for days without a single record, their nature and feeding habits making them more or less inconspicuous; they feed in the shadows along the shore, or again, when one approaches by boat, they dive and do not appear until long after the boat has passed. When in open water where the light is strongest, however, they are very conspicuous.

Loons are rather inquisitive and when one is anchored in some pleasant little bight, where great spruce trees cast wavering shadows upon the depths it is not uncommon to have a pair circling the boat curiously, as they ride buoyantly upon the water. In flight they follow the channels of the streams, rarely going overland, and rarely circling, but travelling in a straight line as though in a hurry. Their weird, and not too mournful cry is a common sound of the wilderness, and seems in harmony with the surroundings. Mr. Fred Gray tells me this species nests abundantly on the little fresh water lakes on the different islands and the mainland near Wrangell, and states that practically every little body of water has its Loon family. Birds in high plumage are to be seen the year around. The birds collected had been feeding entirely on fish, herring and rock cod usually; near Petersburg, where shrimp are plentiful, I am told the Loons gorge on these small animals. The species is so commonly distributed that records are almost superfluous. They were seen in Keku Strait November

18, 1919, and at Oliver Inlet February 3, 1920, and were common in Keku Strait, at Craig, Klawack and Wrangell in April and May. Herring were running at this time, and many birds were congregated in the region of Klawack. They were abundant in Hooniah Sound and in Stephens Passage May 2-25, and were observed daily in Glacier Bay in June, and were seen commonly on all field trips in October, and at Wrangell in January, 1921.

Gavia adamsi. YELLOW-BILLED LOON.—This species proved not uncommon during the winter and spring months although most observers have failed to record it. Two were seen at Oliver Inlet February 6, 1920, one in Keku Strait March 5, an immature at Wrangell April 23, and a full-plumaged adult in Stephens Passage May 25; one was collected on the same date in Gastineau Channel near Thane; five were seen in Stephens Passage between Douglas and Admiralty Islands, June 10, and an adult and immature collected, and three others seen in Icy Strait June 11-12. The first were observed in the fall in Seymour Canal, where at least eight were positively identified September 30-October 1; nine were seen October 7-9 in Stephens Passage, and one taken, and thirteen were seen in Icy Strait and Glacier Bay October 10. Seven were noted in Icy Strait on the return trip October 15; five in Canoe Pass and Chatham Strait October 24 (2 collected) and two others at Killisnoo October 26, of which one was secured.

Mr. Young tells me that he saw this species commonly near Admiralty Island in the spring and fall of 1921, and collected one specimen which was turned over to a scientist in Juneau.

The center of abundance of the Yellow-billed Loon in southeastern Alaska is undoubtedly among the northern islands, probably from Seymour Canal northward to Icy Strait, for if they extended their range in any numbers to the southward, Mr. Willett would undoubtedly have known it. For further data on this species in Alaska, I will refer the reader to 'The Condor,' Vol. 24, No. 6, and Vol. 27, No. 1.

Gavia pacifica. PACIFIC LOON.—A common species except during July, August and September, when the birds are on their Arctic breeding grounds. Several were noted in Stephens Passage February 3-7, 1920 and a few in Keku Strait March 3. Birds in breeding plumage were observed in Hooniah Sound May 17, and others in Stephens Passage June 10, and Glacier Bay June 12-21. I remember four beautiful adults floating so motionless upon the mirror-like water that they made no more disturbance than so many corks. After watching me for some moments, they turned leisurely away, and with handsome heads held high, disappeared among some grounded icebergs just out from the shore line. They were common during October, having been recorded from Seymour Canal, Stephens Passage, Glacier Bay, Chatham Strait and Kootznahoo Inlet. Birds which I took to be this species were seen at Petersburg January 17, 1921.

Gavia stellata. RED-THROATED LOON.—This Loon was not positively identified until June 10, when several adults were seen in Stephens Pas-

sage. At Canoe Pass, on the morning of June 11, there were twenty-five or more flying back and forth along the channel, and the next day, a dozen at least were noted at Pleasant Island in Icy Strait. A pair or two were observed daily in Glacier Bay between June 12-21, but they were never common. The first specimen seen in the fall was taken near Holkam Bay in Stephens Passage September 25, an adult in worn plumage; three birds were seen in Tracy Arm the following day, and several in Seymour Canal September 28-October 1. The last recorded were a few observed daily in Stephens Passage October 7-9 and in Glacier Bay October 12-14.

Lunda cirrhata. TUFTED PUFFIN.—An extremely common bird along the coast, near favorite breeding islands during the summer months, but rarely seen along the coast in winter. I first met the species in Glacier Bay in June 1920, when a hundred or more were seen on the placid water of the bay, in company with Murrelets and Cormorants. They were evidently nesting on Willoughby, Marble and Drake Islands, as they were seen entering crevices, or sitting about on the rounded, ice-worn rocks. They were nesting by thousands on Forrester Island in July, the ground being honey-combed with their burrows in many places. They choose a variety of nesting sites in which to deposit their single, large white egg,—under rock slides, or in crevices in the cliffs, but they usually inhabit burrows constructed for the purpose. The largest colonies are found among clumps of grasses on precipitous, exposed hillsides, where the thousands of tunnels undermine the vegetation, making each little clump of grass an island surrounded with burrows. Climbing about among a colony of these birds is not as uninteresting as might be supposed, for the grass is often worked loose from the steep walls; then too, the Puffins have a habit when alarmed of diving into space with the speed of a falling rock, without the customary cry of "gangway," and apparently without the slightest care as to their final destination. The Tufted Puffins begin to lay about June 10, and we saw several black, downy young July 10. These quaint birds are among the most successful in raising their young, and are well armed with a razor-like beak to ward off invaders. The Indians use all the different sea birds for food, but this species which nests in such abundance, selects such inaccessible places, it is doubtful if they could be endangered by raids of the natives. The species was last observed in Glacier Bay August 8-15, when a few were recorded daily, for none were apparent on my trip to the bay during October.

Fratercula corniculata. HORNED PUFFIN.—Not as abundant as the preceding species, but they nest fairly abundantly in all colonies of sea birds along the exposed coast. They were noted daily at Forrester Island in July, sometimes sitting at the entrance to their burrows, but usually feeding among the kelp, or darting overhead with the speed of an arrow. These birds are not nearly so well provided for protecting their young or egg as the Tufted Puffin, for their large beak is rather weak and their general nature is less pugnacious. As though realizing their inferiority, they place their eggs in most inaccessible places, sometimes in dark caves

among a network of boulders, or again far back in pockets left by the faulting of the ledges; while many seemed to prefer large wave-washed caves. Several pairs were nesting high up on the arched dome of "murre cave," a huge wave-worn cavern where the screech of the Murres and the incessant rumbling of breaking waves made continuous deafening roars, and high thrown spray covered the walls with a slippery slime. Here, as though aware of their safety, the Puffins deposited their eggs on a narrow ledge. The first eggs are laid about June 10 on Forrester, according to Willett, but no young were noted up to July 21, when I left the island. In flight, this species is a particularly beautiful bird, and it is a wonderful sight to see a dozen or more of them stringing along the boulder-strewn beach, sometimes flying high against the blue of the sky, or often sailing low,—just clearing the spray of the massive waves crashing among the rounded boulders.

***Cerorhinca monocerata*. RHINOCEROS AUKLET.**—This species breeds on Forrester Island by thousands, their burrows literally undermining the woods in places. The entrances of their nesting holes are often under the roots of trees or under heavy windfalls on the gentle slopes of the island, rarely more than 500 feet in elevation. The majestic spruces tower to a great height and shed perpetual shadows where only an occasional ray of sunshine enters to dry the moist vegetation. The soil is rich with humus making comparatively easy digging for the birds, as the length and numerous galleries of the burrows indicate, some are simple with straight, short leads with a cluster of spruce twigs making the nest, while others wind back and forth in an intricate maze which would do credit to a woodchuck. The Auklets begin to lay about May 15, when their one whitish egg is deposited at the end of the burrow, and is soon encased in a dirty brown coat from the surrounding soil. Badly incubated eggs, and downy young were found on July 10, and of fourteen adults collected, ten proved to be males. It seems the birds incubating during the day time have the long shift of eighteen hours or more, for there are only four hours of darkness during July; as the Auklets are rarely noted in the day time, the exchange of duty must be done under cover of darkness. Rhinoceros Auklets were occasionally noted out over the water as they sailed along in bands, but Willett tells me they usually make long flights for their food. Meares Pass, at the north end of Dall Island is a favorite feeding ground, where the preferred food, "needle-fish," abounds. On the evening of July 21 we saw an individual near Waterfall, at least fifty miles from Forrester, returning to its nesting place with a needle-fish dangling from its beak. Willett stated he was confident the Forrester birds usually make such flights.

***Ptychoramphus aleuticus*. CASSIN'S AUKLET.**—These little sea birds are abundant on Forrester Island but are rarely noted on the waters close to their breeding colony. I saw two birds in flight July 18 when attempting to reach the mainland, and three more July 21 when with Mr. Willett, crossing from Forrester to Dall Island. These Auklets nest in

large colonies along the north and west shores, where most of the colonies of sea birds appear to be,—that is, on the “outside,” while the “inside” (nearest Dall Island) seems to be little used in comparison, except by the thousands of Ancient Auklets (which had already left the island with their young). The burrows of the Cassin’s Auklets can usually be distinguished from those of the Rhinoceros Auklets by their smaller size, while the Cassin’s Auklets also nest to a greater height, often choosing favorable places almost to the top of the island. Their burrows are found among the huge trees or on exposed, brush covered slopes, in equal numbers. They start nesting earlier than most species, the first eggs being laid about the middle of April and young birds nearly able to fly were taken from burrows July 9. According to Willett, fresh eggs are abundant about May 10.

A Cassin’s Auklet was collected in Chatham Strait October 9, just off Canoe Pass (a strong southeaster had been blowing for two days), and two others were seen farther down the Strait October 24. Several were observed in Icy Strait, near Glacier Bay October 10, and one was collected. The specimens taken had been feeding on small shrimp.

Synthliboramphus antiquus. ANCIENT MURRELET.—This species is a very abundant nesting bird on Forrester Island, where they make their burrows along the wooded hills, as do the Auklets; the majority nest on the “inside” of the islands, however, in contrast to most species. Their small burrow entrances are easily identified, and they often run their nesting tunnels to a considerable depth. During my visit to Forrester, not one Murrelet was excavated out of many trials, and Willett told me that most of the birds had departed with their young two weeks previous. On July 8 I saw several birds on the water and in flight, off the lower end of Dall Island, and in the channel between Dall and Forrester Island. They could be told from the Marbled Murrelets at that time of the year by their light color, as the latter appear dark from the distance. On July 21 when crossing from Forrester to the mainland with Willett, we saw about a dozen adult Murrelets, and one pair of three-fourths grown young, which were collected with the parents. This is the first time Willett, in seven years work in the vicinity, had seen young of this size, or had noted the young after they left the island, and were unable to fly. Several more adults were seen in Meares Pass that evening, where they were probably obtaining “needle-fish,” for which the Pass is famous. Possibly a dozen birds were noted at the entrance to Glacier Bay August 9, and I collected a pair. Young Marbled Murrelets were becoming abundant, so it was difficult to make positive identifications between the two species. A pair of birds was seen in Icy Strait October 10, but I was unable to collect them.

Brachyramphus marmoratus. MARBLED MURRELET.—This is probably the most common and abundant sea bird found in southeastern Alaska, and it would be the exception to make a water trip of any length without noting a few; their distribution is general, and they occur abundantly at all periods of the year, their appearance in a given place being

dependent upon the food supply. They were very numerous near Wrangell in April 1920, and especially so in the vicinity of Pleasant Island in Icy Strait June 11. To give dates of records would be mere repetition, for they can be noted daily. The first young of the year was seen on July 19, at Forrester Island, and young were abundant in Glacier Bay August 8 to 15. The nesting place of this species has never been found, but from their general distribution over the inland waters during the breeding season,—breeding birds having been taken in Hooniah Sound, Wrangell and Glacier Bay in May, April and June respectively, it seems evident that the birds not only have an extended breeding season, but that they probably do not nest in large colonies, as do the Ancient Murrelets. Mr. Gray used to own a dog which was an adept at locating the nests of burrowing birds. Gray scoured the hills with the dog where he thought there was a likelihood of these birds nesting, but he never obtained any results. I did prove that they have a long nesting period for I took a female at Wrangell April 23 which had evidently laid an egg, and had another ready for the shell; another specimen with an egg nearly ready to be laid was taken in Glacier Bay June 12. These little divers are in changing dress during April, many still in the winter white, some in high plumage, and others in various stages between the two. They are wonderfully agile and quick to dive, swimming under the water with the speed of a fish; both wings are partly extended as an aid in navigation. During the mating months, their mournful little whistle could be heard when a pair separated, or when one band called to another in the dusk.

Brachyramphus brevirostris. KITTLITZ'S MURRELET.—This species was first noted in Glacier Bay on June 12, although I had watched carefully for it in Icy Strait the day before. They were first seen off the south end of Willoughby Island where small flocks were feeding among the hundreds of Marbled Murrelets, Puffins, Cormorants and Loons. The water of the bay was like glass, the quiet grey-sheen almost oil-like with deep reflection of spruce and hemlocks along the shore; the ragged, snow-covered peaks of the distant horizon were mirrored perfectly, and the huge icebergs,—some with colorless worn surfaces covered with Cormorants, others irregular and sculptured, showing their recent break from the massive "ice-river" at the head of the inlet, their shadows of an intense blue, were drifting with the tide without a ripple,—a summer, Arctic panorama unsurpassed. Small flocks of Kittlitz's Murrelets flushed on either side of the boat, their white breasts sparkling in the afternoon light. Others were upon the water ahead, and through the glasses I could distinguish the lighter, slightly greenish cast to the backs of this species, in contrast to the darker colored Marbled Murrelets.

Dixon notes (1907 Alexander Expedition) that the Kittlitz's Murrelets are wilder than Marbled Murrelets, and fly more swiftly. After collecting some thirty specimens, I cannot agree that there is any apparent difference in the general flight and wildness of the two species. It is true that at times the Kittlitz's Murrelets will take to wing while the others will dive,

but the converse is true also, for I have found this species often dives while the Marbled Murrelets take flight. The direction from which the wind is blowing, the number of birds about, the food supply and individual variation all go to make up and cause varied actions in different individuals, but there is little specific difference in action between the two,—at least not enough to be an aid in collecting. At times Kittlitz's Murrelets do appear to rise from the water more abruptly than the others, but I have also seen them go bouncing over the waves as if they could not get on wing, and then finally settle to the surface and dive. When collecting this species I seemed to have better success away from the island shores, where the many Marbled Murrelets were feeding, and it was also necessary to go with the light at my back, as the two species cannot be separated when the shadows fall the wrong way. During June 12–21, many Kittlitz's Murrelets were noted and about eighteen collected. Their center of abundance in Glacier Bay seemed to be in the vicinity of Willoughby Island, and to the eastward along Beardslee Islands. I rarely noted them in the channels, but usually upon the open bay. One of the females collected June 12 had an egg in the oviduct almost ready for the shell. I watched the birds upon the water on this date without a clue as to the direction of the nesting grounds, for I never saw them overland. On the 19th we went to the head of the inlet, into the ice in front of Muir Glacier, but none of these birds were observed within ten miles of the ice-sheet. On June 21, when returning to Juneau, I took two specimens in Icy Strait, about opposite Excursion Inlet, and saw several others, as well as identifying at least nine more in Chatham Strait, between Point Couverton and Point Retreat. On July 4 a trip was made to Taku Glacier and I thought I saw a few of this species but I could not be certain. I think however that this species will be found around all the large live glaciers when more work has been done in the region.

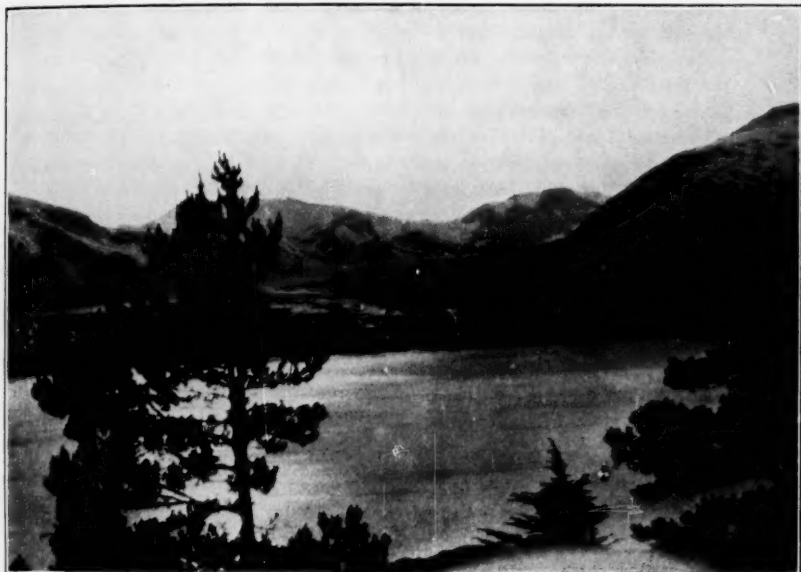
I returned to Glacier Bay August 8–15, and collected another series of Murrelets. The season was well advanced, of course, and young Marbled Murrelets were abundant, as well as a few Ancient Murrelets. Although hundreds of birds were at the mouth of the bay, I failed to identify a single Kittlitz's Murrelet, and it was not until I ran to Muir Glacier August 12 that I identified or collected any. Possibly one hundred were noted in pairs or small flocks in the drifting ice above Reid Inlet, where none had been seen in June. They seemed to find conditions to their liking close to the glacier, in the floe ice. Two young birds were taken, their slightly smaller size and immature look being apparent while they were upon the water. On August 14, possibly 25 birds were seen along the Beardslee Islands, but on the whole, the species was much scarcer than in June.

During my trip to Glacier Bay in October, I was unable to identify a single Kittlitz's Murrelet, although we again went to the glacier. There were very few birds in the ice, so it may have been that food conditions were not favorable and the birds were in another arm, up Reid Inlet for instance, or they may have left the bay for the open sea for the winter

months. The varied plumages of the specimens taken correspond to the descriptions given by Grinnell in his report of the 1907 Alexander Expedition. June is undoubtedly the middle of the breeding season, that is, the birds begin nesting at that time, as dissection of specimens proved.

Cepphus columba. PIGEON GUILLEMOT.—These birds are residents and are to be noted at all times of the year in practically all localities; they breed in all suitable places where they will be free from vermin, usually choosing small islands and laying their two large speckled eggs far back under a pile of boulders, where they are practically inaccessible. Occasionally however, they choose a little rocky niche up from the dashing spray, and trust to fortune they will be unobserved. On Forrester the Guillemots begin to lay about June 10, eggs and downy young both being observed between July 9–21. They like to feed along the edge of a bed of kelp, a band of them together, where they secure their small fish by diving. Having filled themselves to satiety, they often rest idly upon the water with their last catch held dangling crosswise in the beak. Again, one will see the air filled with darting black forms,—especially when the surf is breaking among the boulders with a crashing roar, and the seething foam swirls out from shore for fifty yards or more; then they dive into the breaking waves with abandon, and coming out with dangling red legs outspread, rise high in the air and circle off to some convenient ledge, with the small fish tightly clutched in their mandibles.

Uria troile californica. CALIFORNIA MURRE.—Murres are abundant and breed in great numbers on the outside islands, Forrester being the most important. They are generally distributed during the winter months, according to food supply, and are to be found in numbers one week only to be very scarce the next. When the herring and other small fish school, hundreds of Murres are sure to be in attendance; consequently, the vicinities of Wrangell and Craig are favorite places for Murres during the early spring. Birds still in winter plumage were noted at Wrangell in April, while others had assumed their spring dress. They begin to lay during the middle of July on Forrester, where they deposit their single egg along some precipitous ledge; there is no pretense of a nest and often the ledge is so narrow the bird can barely cover her egg. When the Murre returns to its egg, it waddles about comically before straddling and tucking it in place with the beak. When alarmed they dive headlong from their nesting ledge with a consequent shower of eggs kicked into space in their clumsy efforts to make haste. Although many eggs are broken in each colony in this manner, the damage caused by predaceous Ravens is even greater. These old robbers make journeys to the rookery, steal an egg and fly off to a convenient limb to enjoy it. We watched one ragged-winged fellow, which was easily identified, carry away six eggs in fifteen minutes. The Crows are equally destructive, but they are not so conspicuous in their depredations, for they eat their plunder on the spot. When some disturbance causes an entire Murre colony to leave their ledge, the downward shooting white forms look not unlike a scud of surf shot forward by the



1. "DEAD" NORRIS GLACIER WITH NESTING MORaine IN FRONT. PHOTOGRAPHED FROM TAKU INLET FIVE MILES DISTANT.
2. SHORE LINE OF FORRESTER ISLAND.



wind; the birds circle madly about for a few minutes and then settle onto the water in "rafts," hundreds of them together. They are excellent fliers and go very swiftly with fast strokes of their short wings; flocks of a dozen or more pass a given point continuously as they return from the fishing grounds, flying more or less in single file, and all in all, this species is the most conspicuous on Forrester. The young do not appear on this island until August, the different colonies seeming to start their egg laying about the same time. The fishermen and natives of southeastern Alaska have long made a practice of gathering sea bird eggs, and although less egg stealing has been carried on on Forrester since it was made a reservation, they still make occasional raids.

Stercorarius pomarinus. POMARINE JAEGER.—One specimen was observed in Icy Strait, off Point Adolphus on August 8. It was a dark bird with white underparts, and was chasing Gulls fishing off the point. Willet tells me the species is not uncommon near Craig in the fall.

Stercorarius parasiticus. PARASITIC JAEGER.—This species is fairly common in Glacier Bay, and a few were noted daily during our visit in June; one was taken on the outer Beardslee Island June 16 and seven others noted about the Gull colony. On August 14, four more were taken on the same island, an adult and three young, and several others recorded. It is probable the birds nested on the island, in view of the fact that they were present during the breeding season, and that young were collected. No Jaegers were seen in Glacier Bay during October.

Stercorarius longicaudus. LONG-TAILED JAEGER.—Only two birds seen. The first was observed when crossing from Forrester to Dall Island with Willett July 21, when a beautiful specimen came winging along; the other was noted at the entrance to Glacier Bay August 9, close to Strawberry Point.

Rissa tridactyla pollicaris. PACIFIC KITTIWAKE.—Only a few were seen in the spring, three in San Juan Harbor, Suemez Island, March 11, and several small flocks in Glacier Bay June 16-17. They were next observed in Seymour Canal October 1, when one was taken from a small flock; on October 7 they were fairly common near Young's Bay in Stephens Passage, and in the channel behind Horse and Colt Islands along the Admiralty shore. October 9-10 they were abundant in Icy Strait and Bartlett Cove. None were noted on the return trip down Icy Strait October 14 in spite of good observing weather, or down Chatham Strait the latter part of the month. The specimen taken in Seymour Canal October 1 had the hind toe almost lacking, with no evidence of a nail.

Larus glaucescens. GLAUCOUS-WINGED GULL.—These Gulls are common and are to be seen daily. In the winter they are very tame and will often eat from one's hand; they follow the passenger boats from place to place for scraps thrown over-board, and they are very common about the wharves and docks of the towns, where they gather refuse and eat barnacles from the pilings. When the tides are out, the Gulls resort to the flats for barnacles and mussels. Immature birds are especially evident at this

season. In June, however, few birds are to be seen about the towns, or following the boats, all the breeding birds having departed to the nesting grounds, where incubation is well under way by the middle of the month. All the outside islands have their Gull colonies with Forrester probably supporting the greatest number. Glacier Bay has some fine bird islands, and this species breeds especially abundantly on Willoughby. They also nest in considerable numbers on the glaciated points projecting into Muir Inlet close to the glacier and upon the desolate glacial moraines; another very large colony is on the right hand shore of Taku Inlet (as one approaches the glacier), where at least a thousand pairs were occupying the precipitous cliffs. The Gulls of Glacier Bay have a rather hard time rearing their families for the Indians of the vicinity have been accustomed to rob the nests; Gulls' eggs are excellent eating, and one can hardly blame the natives for seeking a change from salmon and seal.

The Gulls make neat nests of moss for their three greenish eggs, seeming to prefer an exposed bench where a wide view can be obtained. On the Beardslee Islands, however, they nest by thousands on the brush-covered slopes, while on Forrester we found the Gull rookeries on the points. Both small young and fresh eggs were seen on July 9. The youngsters are able to run about as soon as hatched, and at the anxious cry of the parent, they drop motionless along some crevice, where they are well-nigh invisible. They have apparently, no sense of distances, and when frightened will walk over ledges many feet in height, with no harmful results, so far as I could see. Much has been said as to the destructiveness of this species to spawning salmon and their eggs, but I have watched the birds about salmon streams without seeing any evidence to support these claims, other than birds eating dead salmon and picking eggs stranded on the bars at low tide. I have been told that the Gulls pick the eyes from healthy fish, but I am not convinced that the bird could hold an agile fish even in shallow water; as a whole, the damage done by Gulls in the section I worked is negligible, and Willett has told me this species rarely bothers the nests of other birds on Forrester.

Larus argentatus. HERRING GULL.—Not abundant. A few were seen at Wrangell April 12-26. About a dozen birds were evidently nesting in Muir Inlet near the glacier, but as all the Gulls left their nests at my approach, I was unable to distinguish between the nests of this and the preceding species. The pair of birds collected June 19 (AMB 543-544) were in full breeding plumage with a bright red eye-ring. This would seem to point to *regae* for it has a red eye-ring, while that of the Herring Gull is supposed to be flesh color. The specimens were identified as *argentatus*, however. A few immature birds were seen in Taku Inlet June 27, and a pair was noted on the "Horn" on Forrester July 19. Willett tells me that a few pairs have been accustomed to nest there yearly, but we failed to note more than the two birds. At Auk Bay, August 7, at least two hundred of this species were milling about as they picked refuse from near

the cannery; several immature birds were identified in Seymour Canal October 1, and one adult in Young's Bay October 7.

Larus californicus. CALIFORNIA GULL.—Four specimens were taken at Klawack March 10, 1921. The only other records I can find for Alaska are those of Hersey in the summer of 1914, at Ketchikan.

Larus brachyrhynchus. SHORT-BILLED GULL.—Rather common throughout the year. At times during the winter, only adults would be seen, and again only small flocks of immature birds. The vicinity of Mendenhall Bar is a favorite feeding ground, and the birds hanging about the docks at high tide would usually string to the flats on the low water. In looking over my notes for the species, I find records of them for every trip among the islands, and although they are not so abundant as the Glaucous-winged Gull, they are one of the most common water birds. Several dozen pairs were evidently breeding upon the extensive glacial moraines in Muir Inlet, for they circled about continuously, showing great concern, but as my time was too limited on June 19, I was unable to investigate. There can be no doubt however that they were breeding on both sides of the inlet, on moraines which were under many feet of ice but a few years before. Hundreds were noted in Glacier Bay August 8-15, both adults and young birds, and they were abundant upon the bars at low tide. Flocks, in company with Bonaparte's Gulls, rested upon gigantic ice-bergs, and it was always a common sight to see large flocks milling about the tide-water streams. In Taku Inlet June 28, about fifty pairs were found nesting among the glacial debris at the foot of Norris Glacier. Several empty nests were found, which the young had left, and in each case the adults darted at our heads with vicious swoops. I found a couple of young birds and placed them in their nest near my photographic blind, but the adults alighted behind some beautiful lupines and called the babies to them. The blind placed by a nest of eggs yielded no better results, the birds not even covering the eggs when the blind was moved thirty feet away, although they hovered anxiously about. The three dark-green eggs were slightly elongated, and were laid in a crudely made nest of sticks among the ice-worn boulders. All were heavily incubated. The adults were tormented by the Arctic Terns, and at every arrow-like swoop, the Gulls would "duck" and give a cry of alarm.

Larus philadelphia. BONAPARTE'S GULL.—This species was noted on Mendenhall Bar May 4, when about fifty, mostly adults in spring plumage, were resting upon the sand at the mouth of Salmon Creek. As the tide came in, the birds nearest the water took wing and circled out over the channel, to be joined by the others as fast as the tide forced them to move. They worked back and forth, and I decoyed the whole flock overhead by waving a handkerchief. They were next noted at Mendenhall River June 3-4, where a flock of one hundred or more, evidently non-breeders, was congregated. The birds continually circled overhead, the whole flock changing direction of flight with the grace and suddenness of a band of Skimmers. None of this species were noted breeding, but immature

birds evidently just from the interior were found very abundant in Glacier Bay, August 8-15, where they seemed content to pass away the time resting upon ice-bergs in company with Short-billed Gulls. Whole flocks milled over the tide-rips, or sat quietly upon the water, feeding upon the debris carried by the tide. They were common during the fall, although not one black-headed adult was seen. There were great flocks on the bars of Holkham Bay September 24, and in Seymour Canal October 28; they were in numbers in Stephens Passage October 7-9, in Icy Strait on the 10th and Glacier Bay until the 14th. The migration seemed to have passed by the 26th for only a few stragglers were seen from Point Retreat to Killisnoo, in Chatham Strait, October 26 to 28.

Sterna paradisaea. ARCTIC TERN.—This species is late in arriving, the first being noted May 25 in Stephens Passage, near Douglas Island. Several small bands passed over early in the morning; they were next seen at Mendenhall River June 3-6. On June 4 a large flock was found over the moraine in front of the glacier, and I believe they use this place as a nesting site, although I had no chance to investigate. But few birds were seen on my various water trips, as I believe they stay in the near vicinity of their nesting grounds. A large colony nests on the moraine in front of Norris Glacier, near Taku Glacier. At least a thousand pairs were using the debris covered flats, and the season was found to be well advanced June 26-28. The Terns were noticed fishing immediately we entered the inlet fifteen miles from their nesting flats. They came from the direction of the glacier in scores, an apparently endless chain of Terns, every one making detours here and there in search of food. How different was the flight of the returning birds. Each one flew direct, and the glasses revealed the shining fish held crosswise in the bright red beak. When we visited the colony June 28, the day was drizzly and foggy so that the glacier was but dimly visible, and the peaks of the surrounding mountains obscured in a veil of haze. We found very few eggs remaining but the young were in all stages, from fuzzy little fellows just from the egg to three-fourths grown with pin-feathers. The adults flushed while we were still far away and flew about wildly, usually high in the air; the youngsters were hard to find, several large ones being seen, but no small ones could I make out until the photographic blind had been put up. Then I appreciated the number of youngsters scattered over the moraine, for parent Terns began dropping here and there over the boulder strewn flat, each one calling, and fuzzy little youngsters tumbled from nearby shelter. The Terns proved very tame and came readily to their young; their actions are similar to those of Least Terns, running over the ground with wings half lifted, and then stopping at the edge of the nest with wings still spread. The nest is a simple pit in the sand, like those of most Terns, except that the nesting pit is more defined, and is evident even after the young have departed. The old birds were pugnacious, and were continually harrassing the Short-billed Gulls, keeping them dodging with arrow-like onslaughts.

This colony is situated in about as beautiful and picturesque scenery as

one could imagine, the great Taku Glacier on one side and the equally large, "dead" Norris Glacier on the other. Flowering lupines served as a foreground to make the colony of graceful darting forms a veritable garden, while the gigantic walls of ice, and the grim peaks surrounding served as a contrast. Weather conditions were abominable during the few days visit, and I could not but wonder at the choice of such a nesting ground. The gray, continuous fogs were augmented by steadily drizzling rain, which poured for three days continuously, and the cold glacial winds just off the great ice-sheet did not make the prospect brighter. Conditions were most disheartening for a photographer, for time exposures were almost necessary, and then the visibility was so poor one could scarcely see more than a few hundred feet. What a wonderful opportunity it would be to visit that colony with a few days sunshine.

Puffinus griseus. SOOTY SHEARWATER.—This species was not common near Forrester in July, probably due to lack of sea-food, as all evidence seemed to point to such a scarcity, but a few were seen off shore daily. Possibly a dozen were noted from the southern point of Dall Island to Forrester July 9, and about as many more the 18th and 21st, with a few scattering individuals coming close to shore on other days. Seven specimens were collected in Icy Strait at the mouth of Glacier Bay August 9, from a flock of about twenty-five. The water was very smooth and these birds were feeding with great flocks of Murrelets, Puffins and Northern Phalaropes. They seemed very large when upon the water, and sat high; they were quite tame and allowed us to approach very near. In flight they are wonderful, and as their name signifies, they have the ability to shear the water, following the waves up and down with swift strokes of their slender, stout wings with a gracefulness which is a pleasure to see.

Oceanodroma furcata. FORKED-TAILED PETREL.

Oceanodroma leucorhoa beali. BEAL'S PETREL.—These two forms nest on Petrel Island at the south end of Forrester. The island is about a mile in length, with the usual precipitous walls, and detached rocks with their Murre colonies. The spruce trees do not attain any size and the berry bushes upon the slopes are dwarfed, allowing ample digging room for the burrowing birds. The Petrels are by far the most numerous birds on the island, and the burrows of both forms are to be found side by side in the dry soil, from the waters edge to the summit. The Forked-tailed Petrel nests earlier than Beal's Petrel, the first eggs noted by Willett being heavily incubated on May 24. On July 16 we found many fresh eggs, and no young, of Beal's Petrel, while only large young were to be found of the gray bird. While many adult Beal's Petrels were found in the burrows, none of the other species was noted. Both forms have but one egg; the nest is a little pile of sticks in the end of the burrow,—the nesting hole usually being three or four feet in length and of simple structure. The nesting sites differ somewhat in that Beal's Petrel usually chooses open ground while the other species is more apt to burrow near the roots of a tree, or along a fallen log. That the Beal's Petrel has the longer nesting period of the two is evident,

for some of the burrows held two adults, the eggs, as yet, not having been laid. The birds were apparently not greatly concerned with the opening of their home-tunnel; and when placed upon the ground, they usually waddled to the first burrow entrance and scrambled in. Some times they take to wing but are soon tangled in bushes and are glad to seek out a nesting hole. I have never seen Beal's Petrel away from Forrester (neither species was noted in flight near the island), but I saw about thirty Forked-tailed Petrels skimming over the waves before a southeaster in Frederick Sound November 19, 1919, and again, several were noted in Icy Strait October 10, and one was collected. One was seen in Glacier Bay October 14.

Phalacrocorax auritus cinnatus. WHITE-CRESTED CORMORANT.—I have never seen this species north of lower Chichagof Island; a pair was noted in Keku Strait March 5, about thirty individuals near Klawack March 10, and one pair in Patterson Bay, Hooniah Sound May 19. Many large Cormorants were seen from time to time, but as no other birds were near to compare them with, I could not identify them. This species is much larger than the Pelagic Cormorant, its size alone being sufficient to identify it, when in company with other Cormorants. At Klawack, where they were fairly common, they were feeding upon the schooling herring, in company with other Cormorants and Gulls. They are apparently more wary than the Pelagic Cormorant; are strong fliers, and are hard to collect.

Phalacrocorax pelagicus pelagicus. PELAGIC CORMORANT.—This is a common species, being seen every month of the year and on practically every trip. As with other water birds, their abundance depends upon their food supply. Where there are herring, Cormorants are sure to be in attendance. Their distribution is general during the winter months, but the majority repair to the breeding islands during summer; and even the non-breeders appear to follow the mated birds, possibly for company's sake, for few birds are seen along the channels in comparison with other months. Many birds were nesting on Forrester during July; where they build their nests upon narrow ledges along precipitous cliffs, often with a colony of Murres, or a few Gulls. I have seen half a dozen Cormorant nests close together, and again, one pair may occupy a cliff to themselves with no other birds within one hundred yards. The birds had just begun to lay, three bluish, chalk-like eggs to a nest being the most I observed; the eggs are rough and stained, and the nests are untidily kept, being plastered with droppings. This species is wonderfully colored when in full breeding dress, the array of greens and purples fairly scintillating in the half-light; some few individuals are blessed with a series of small white, thread-like plumes, which are so numerous as to make the bird look partly albinistic. Cormorants are industrious fishermen and are probably as destructive to our fish supply as any bird; whole flocks of them follow the herring run and the amount they consume must be enormous. A fisherman put out a gill net at Forrester to catch bait and I saw the net in the water alive with bait, while Cormorants were diving on both sides of it. When the fisherman

came, not a herring remained. In Glacier Bay, June 12-21, Cormorants were common, although not nesting as yet. Whole flocks clung to the precipitous walls, or sat about on the glaciated points. They were plentiful August 8-15, and were noticed especially because of their habit of congregating on the numerous ice-bergs.

Phalacrocorax pelagicus resplendens. BAIRD'S CORMORANT.—There is a specimen in the Colorado Museum collection, No. 9250 which has been identified by Dr. Oberholser as this form. It was taken by George Willett off Forrester Island July 18, 1920, and is an adult female in high plumage. This is an interesting record, and I believe the first from Alaska.

Field Museum, Chicago, Ill.

(To be continued.)

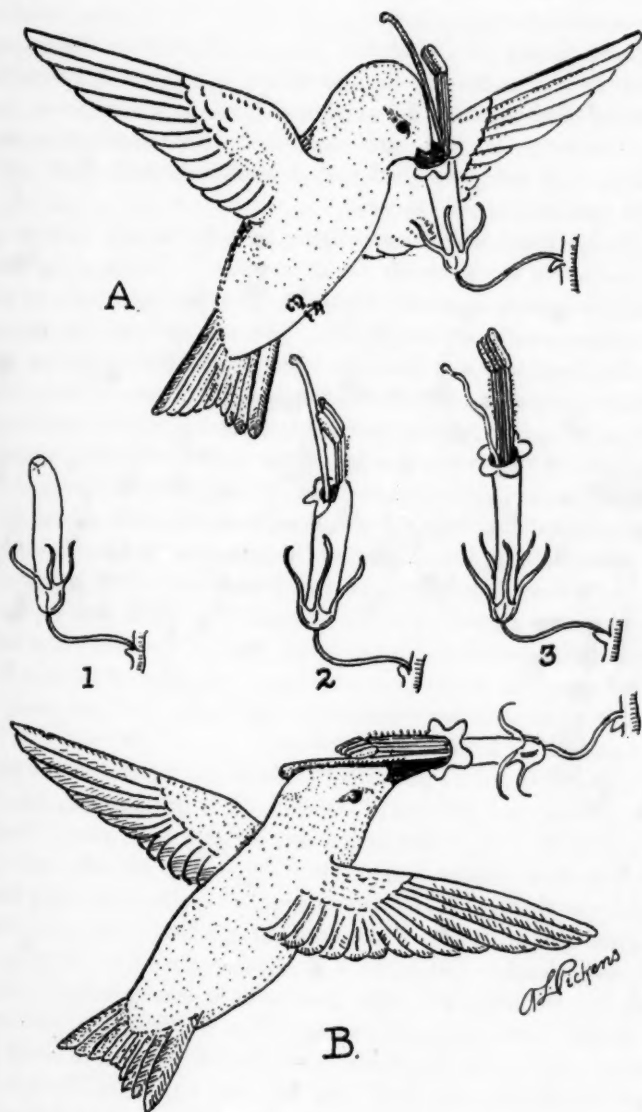
UNIQUE METHOD OF POLLINATION BY THE RUBY-THROAT.

BY ANDREW L. PICKENS.

INTERESTED in Hummingbirds, as I have been for twenty years, I could hardly avoid some study of the various methods employed by different flowers, in forcing the Ruby-throat (*Archilochus colubris*) to bear pollen from one flower to another. Some appear to use the bill, some the forehead, some perhaps to a limited degree the feathers of the back, and one at least those of the throat.

When I began studying out-of-door forms on the gulf coastal plain, however, I encountered a flower that caught my eye, and puzzled me greatly. The stalk stood erect, carrying the top in some specimens as high as six or eight feet above ground. The flowers had a prim conventionality about them that one rarely sees in nature. Bright orange in color, each was erect in the calyx, which by a springy, curved stem was joined to the branches of the plant. Each gave something of the appearance of a candle stuck in the socket of a candelabrum (fig. 1). The flower would not be fully opened, before the pistil would thrust itself out and stand stiffly erect as shown in the middle figure. Returning in a day or two this would be found dying and withered (fig. 3), but the stamens which had stood in a stiff military line one beside the other, and just back of the pistil would be found to have grown up to the former height of the now dead and drooping pistil. The anthers too were uniquely arranged. There was none of the usual careless balancing on the stamen that one usually finds in this part of the flower. The pollen-bearing surface in each one turned toward the front. There was something about the arrangement that suggested the fingers of a hand raised heavenward, ready to descend in blessing on someone's head.

The funnel-form of the flower should have suggested a clue to me, but I had to see this, one of the most cleverly arranged flowers outside of the orchid family in regard to the matter of cross-pollination, actually being manipulated before I realized what a remarkable find I had come upon.



Then I found, what appears to me to be, the most delicately adjusted of the various flowers of the United States that cater to the Ruby-throat. I found one large patch of these brilliantly colored flowers in the edge of a small swamp, and such twittering hordes of Ruby-throats I have seen about no other flower, not even excepting, what I had considered Hummingbird-beloved, buddleia. It was note-worthy that practically each bird had a yellow spot just above the nape.

A Ruby-throat would come flying to a flower which stood up stiff and erect like a candle on its bracket. Dropping the beak along the breast, it would thrust it down into the tube of the flower as shown in the top figure. This was of course an uncomfortable position for a bird that prefers its nectar served in a horizontal flower, as seems to be the case with these honey seekers, so it would begin settling toward the earth, pulling against the front side of the flower until it came to the wonted position, a thing made possible by the elasticity of the spring-like bracket of a stem. As it did so the pistil sank down over the forehead and along the crown, until at last it touched the yellowish spot at the back of the bird's head lightly and for just a moment. The yellow spot was of course a patch of pollen brought from older flowers, for as seen in the figure the pollen-producing parts of the flower now being visited were only partly grown and came far short of the spot, and what is more they were immature and moist, and not ready to shed pollen. A later visit is necessary.

Having received its gift of pollen from another flower the pistil, soon dries up and gets out of the way, while the stamens, standing in their stiff, military line begin growing at a great rate. Having reached their utmost height, they stand side by side and bent slightly at the tip. The brilliant orange in spots is growing black, and one almost feels as if the flower might fail of its mission in a too early death. But again a Ruby-throat comes. It drops its beak into the now dying tube, pulls with its lower mandible, draws the flower down to the horizontal position and drains the remaining nectar. As it does so, the now-lengthened stamens descend in a curve lower and lower, until they rest very lightly on the spot just above the nape like fingers coming down in a patriarchal caress of blessing. But it is a Jacob-like patriarch, this floral schemer,

forcing its guest to render value-received in transportation of pollen to some other younger flower, the pistil of which is now in the position of this one when last visited,—waiting the gift of the magic powder. Already blackening, the tube soon dies, but other buds are opening higher on the plant and for days and weeks the edge of the swamp is a riot of Hummingbirds.

The flower is *Macranthera LeContei*. I am sorry that such an interesting species, has so far as I know, no popular name. It is found along the gulf plain from Georgia to Mississippi, and blooms in summer and fall.

Of all the forms that I have studied this is the most exclusively Hummingbird flower, and I recall seeing no other honey-gatherers in its vicinity. I do not think it would be possible for a bee or a moth to effect cross-pollination, so elaborately is the whole scheme adapted to bird-pollination. Another striking thing, I noted. Red has, heretofore, been regarded as the favorite color of the Hummingbird, yet here is a flower seemingly adapted only to the bird and so to no other creature, and yet it is a bright orange, suggesting yellow rather than red.

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THE COLORADO SPARROW HAWKS.

BY W. H. BERGTOLD.

IN a previous publication¹ I drew attention to the fact that in my estimation, the subspecific differences between the eastern and the western Crow break down in Colorado, and there cease to exist. The present study was undertaken and completed, to determine if a similar disappearance of subspecific differences occurred in the Sparrow Hawks of Colorado.

In 1892² Mearns reviewed the genus *Falco* and its species *sparverius* as found in this hemisphere, dividing the latter into three species and these into six subspecies. This arrangement still obtains in its main features, and is embodied substantially in the last 'Check-List' of the American Ornithologists' Union.

The present study deals with but two of the *sparverius* subspecies listed by Mearns, viz., *sparverius sparverius* and *sparverius phalaena*.

The material examined in this study consisted of twenty-six skins³ all from Colorado, embracing specimens taken as early as 1872, and as late as 1925. The usual differential characters on which subspecies are based, were studied in these twenty-six skins, and it was found expedient to divide these characters into two main groups (a) mensural and (b) color and color-pattern; each of these major divisions was subdivided, the first (a) into measurements of (1) wing, (2) tarsus, (3) bill and (4) tail, and arbitrary numerical values given to each subdivision, while the second (b) was subdivided into the color and color-pattern of (1) wing, (2) crown, (3) back, (4) tail, (5) breast, (6) "face," and (7) throat, each of these subdivisions also being given an arbitrary numerical value. It is quite obvious that all these subdivisions are only an aid to making a general estimate of these characters; no claim is now made that such an arrangement or evaluation of characters is any better than others which might be devised. The method was

¹ Auk, Apr. 1919, p. 198.

² Auk, July 1892, p. 252 et sq.

³ I am greatly indebted, for the loan of skins, to A. H. Felger, Victor Hills, E. R. Warren, and Junius Henderson of the Museum of the University of Colorado.

adopted merely to enable me to fix, quantitatively, in mind, values assumed for the characters, to help make tabulations of the same, and to aid me to evaluate the sum totals of the characters as they leaned to one, or the other subspecies.

The arrangement *seemed* to me to eliminate as much as possible the personal equation always inherent in every consideration of color.

One bar to a completely satisfactory study of the question now in hand was the unavoidable lack of specimens from the extreme eastern border of the state, an area into which, it would seem reasonable to expect, pure *F. s. sparverius* should drift from Kansas and Nebraska, and interbreed with whatever subspecies exists in Colorado.

Twenty-five of the skins examined were collected in Colorado west of a north-and-south line drawn through Colorado Springs, a single skin only coming from a part of the State east of Colorado Springs, to-wit a specimen from Masters, Colorado, a point about one hundred and fifteen miles from the Colorado-Kansas line. Nineteen of these twenty-six Sparrowhawks were collected between the Colorado Springs line and the eastern foothills (the western edge of the great plains), three from the western slope of the state, and finally three from localities well within the mountains, all of which last locations are above 7500 feet altitude.

Mearns had but seven skins from Colorado amongst the many he studied, and did not mention the locality or localities in Colorado whence these seven skins came; hence it is now impossible to compare the data from his Colorado specimens with those gathered from the twenty-six skins studied by myself. It seems that typical specimens of *Falco sparverius phalaena* were found by Mearns to exist in greatest abundance in the "treeless south-west," a fact which reasonably would lead one to believe that Colorado also might have a goodly number of its Sparrow Hawks attributable to this subspecies because the eastern half of the State, portions of its south-west, and also areas such as the lower reaches of the Grand, and White, and Bear Rivers are more or less "treeless." The contrary conditions existing in the mountains ought to cause the Sparrow Hawks of such areas to depart more or less widely from *F. s. phalaena* and to grade into *F. s. sparverius*, because the sub-

genus *Cerchneis* is as variable throughout its range as is the genus *Otocoris*. Judged by the value of their *metrical characters alone*, twelve of the specimens used in this study proved 100% *F. s. phalaena*, four of which came from Denver, three from El Paso County, and one from each of the following localities, to-wit Boulder, Barr, Hot Sulphur Springs, and Yampa; an examination of this list of locations gives no hint of any relation of area to its subspecies, the skins came from the plains and too, from the high areas on the western slope of the State. Six of the twenty-six skins studied exhibited only 75% *F. s. phalaena* mensural characters, two of these six skins coming from Denver, two from Boulder, and one each from Meeker, and Ignacio, and yet again with these six specimens there was found no relation between the subspecific metrical characters and the area of collection. Five of all the skins used in this study showed but 50% *F. s. phalaena* mensural characters, three coming from Denver, and two from Boulder. Finally a skin from Meeker proved on examination to have but 25% *phalaena* metrical characteristics. It seems quite patent from the data gathered in this study that no one can predict correctly what percent of mensural characters relating to subspecific nature will be found in any given specimen from any given locality in Colorado, and it is equally obvious that there is an extraordinarily wide variation in the measurements of Colorado Sparrow Hawks.

A previous¹ study convinced me that the wing measurement is more valuable as a differential character than any other, in fact exceeds in such value the combined worth of the wing, tarsus and tail measurements. Assuming this to be true, and then using the wing measurements of the skins under consideration in the present study it appears that nineteen of the twenty-six specimens would have to be classed as *F. s. phalaena*, and six as *F. s. sparverius*. It seems to me that great weight should be given to metrical characters for it is highly probable that "in nature" they are far more stable than are color and color-pattern; if this be true one is safe

¹ Condor, March-April 1925, p. 59.

² Incidentally it can be noted here that this study revealed quite unexpectedly to me marked differences in the lengths of the right and the left wings in several of these twenty-six skins, one showing a difference of twelve millimeters between the two wings.

in holding that both *Falco sparverius sparverius* and *F. s. phalaena* occur in Colorado when decided by the data here gathered. It therefore becomes necessary to add *Falco sparverius sparverius* to the list of Colorado birds since the A.O.U. 'Check-List' does not include Colorado in its description of the range of subspecies *sparverius*, because, so far as I know, the subspecific status of Colorado's Sparrow Hawks has never before been definitely determined and because the Sparrow Hawks of this State have been reported in the past as of subspecies *phalaena*. It is quite probable that some of the specimens utilized in this study would show a far greater approach to, or even identity with, subspecies *sparverius* or subspecies *phalaena* if Mearns has given the maximum and minimum measurements of single skins, which in his estimation were typical of either of these two subspecies.

Subspecific characters as indicated by color and color-pattern do not run parallel with those of measurements in Colorado Sparrow Hawks; a given specimen may lean far towards one subspecies in its metrical characters, and quite the other way in color. On the other hand a specimen may show strong tendencies both in measurements and color towards one or the other of the two subspecies we are considering. The actual findings are extremely variable and unexpected; thus a skin from Meeker is approximately 70% *F. s. sparverius* in its combined mensural and color characters, while a specimen from Denver exhibits 100% *F. s. phalaena* characters in its metrical aspect and 57% color and color-pattern characters of this subspecies. The color and color pattern characteristics of subspecies *phalaena* expressed in percent ran from 36% in a skin from Meeker to 93% in one from El Paso County. There is no relation discernable, in this series of skins, between collection locality and the per cent of subspecific color character; thus of two skins from El Paso County one is 93% and the other 57% in *F. s. phalaena* color characteristics, while two from Denver are 70% and 36% respectively. Neither is there any correlation between the altitude of the place of collection and the percent value of the color characters; a skin from Yampa (alt. approx. 7900 feet) gives 86% in *F. s. phalaena* color characters, and yet one from Denver (alt. 5200 feet) gives nearly as much, viz., 70%, and yet again another skin from Denver gives but 36%. While many

of the skins examined showed decided leanings towards the desert subspecies [*phalaena*] many others gave striking confirmation of the truth of the statement made many years ago by Mearns¹ that "a number [of skins] from Colorado are too near *sparverius* for reference to this form," meaning I take it, that the skins in question could be referred neither to one or to the other of the two subspecies under consideration.

One would expect the Sparrow Hawks of the relatively dry regions in Colorado between the Rocky Mountains and the Kansas-Nebraska line to show a decided tendency to be (or become) subspecies *phalaena*, but careful study uncovered to me no such bias at all, and did show that there was no rule as to the locality of collection and the color of the specimen.

The combinations of metrical and color values in the skins utilized in this investigation are so varied that one gives up trying to get rhyme or reason or order into them. One thing stands out with striking boldness, the extreme variability of species *Falco sparverius*, a condition long ago emphasized by Mearns.

I am convinced by my study of the material in hand, that amongst the twenty-six skins not one is truly *typical* of either subspecies *sparverius* or subspecies *phalaena*. However five specimens in their combined mensural and color characters are over 90% subspecies *phalaena*, and three are over 70% subspecies *sparverius*, the first group embracing skins from Barr, Denver, Yampa, and El Paso County, and the second specimens from Boulder, Denver, and Meeker. Therefore, if I have not erred, and have estimated correctly the values of the characters of the material studies it must again be said that under our present classification both *Falco sparverius sparverius* and *F. s. phalaena* occur in Colorado.

However it seems quite obvious that Colorado Sparrow Hawks are, so far as the material examined by me goes, not *absolutely* characteristic of either of the two subspecies here under consideration; this is substantiated by Mearns who said² when mentioning the birds from Colorado, that "these differences are of so slight a character as to be insusceptible of intelligent expression in written descriptions in the majority of cases," words I can most heartily

¹ Auk, July, 1892, p. 266.

² Auk, 1892, p. 258.

endorse. This brings about a situation of unusual interest, and points to another of much importance when viewed in the light of present day ornithological classification and nomenclature. These indefinable specimens undoubtedly exist, as recognized so long ago by Mearns, but what shall be done with them systematically? Shall this subspecific indeterminability be disregarded and such border-line groups be ignored? Or shall further subspecies be erected to include them? Or must it be admitted frankly that with these indefinable specimens the present classification breaks down in so far as it relates to many subspecies? I cannot see any alternative to admitting freely that the last is the only and the most logical one. Now if the present difficulty were an isolated instance and the only one in my experience I would be exceedingly wary in assuming such a position, but the choice becomes much easier for me when I recall that the same artificial sharp division into subspecies breaks down with Colorado Crows. Furthermore one does not need to *collect* Robins in Colorado to determine the status of their subspecific relations; the merest novice after studying our Robins in the field during the migration and breeding seasons will learn promptly that there is every possible gradation between typical eastern birds (*Planesticus migratorius migratorius*) and typical western birds (*Planesticus migratorius propinquus*) in the color and the color-pattern of these local Robins. There is no doubt whatsoever in my mind but that a similar, and comparable gradation would be found in many other species whose subspecies overlap in Colorado. No one appreciates more fully than I do the need and wisdom of recognizing and *describing geographical variations*, but it seems to me that some systemists have been, and are, too eager to use such variations as justification in erecting a multiplicity of subspecies which often the very originator of the subspecies cannot recognize unless he knows the locality whence the specimen comes. This last statement is not based on a fancy, but on cold experience. If the original describer of a subspecies cannot recognize the child of his discernment or imagination without the hint of a locality label, how is an ordinary ornithologist to diagnose such a specimen? Has it not come to the point where some zoologists in their honest but unbalanced zeal have made a fetish of the establishment of subspecies and have long lost a due

sense of proportion, mistaking the appearance of an entity for the actual thing? Is it not possible to recognize and describe the extremes found with a given species, and the intergrades between such extremes without endlessly adding such minutely separated geographical variations, as subspecies to an already overburdened check-list? Has not the time come when a decision must be made as to whether or not workers in zoology are to continue making an endless series of subspecies based on increasingly minute, and at times unrecognizable, differences?

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[Dr. Bergtold's paper illustrates so well the present day confusion of ideas regarding subspecies that a few words as to their nature and utility and their place in our Check-List would seem to be in order,¹ even though the subject has been very thoroughly discussed in the past. His paper is divisible into two parts: (1) a demonstration of the irregular variability of Sparrow Hawks in Colorado, and (2) a denunciation of finely drawn subspecies in general and a demand for their suppression.

As to the first of these, granting all that Dr. Bergtold has said regarding variability, percentages, etc., the fact that Sparrow Hawks vary in many perplexing ways in Colorado in no reason why we should reject the division of the species into eastern and western races providing the birds east and west of Colorado maintain the differences accredited to them. When a wide-spread species begins to break up into geographic forms there are areas of intergradation where one form merges into the next, and these areas of intergradation may be narrow, in which case the vast majority of individuals in the combined ranges may be definitely referred to one race or the other; or broad, when individuals over a considerable area cannot be so referred. Dr. Bergtold, if his interpretations are correct, has given us an excellent example of the latter condition. If one wishes to label all of his specimens subspecifically he is of course unfortunate if he lives in a *broad* area of intergradation. But is it not just as interesting and important to work out the endless ways in which nature has combined the characters of the two forms in the region where they merge one into

¹ See also comments in 'Recent Literature,' beyond.

the other? After all both specific and subspecific nomenclature are only our more or less inadequate way of indicating definitely what nature is doing, often in anything but a definite manner. Whether another student of the subject, with Dr. Bergtold's twenty-six skins in hand, would reach the same conclusions as he has, it is hard to say, without the detailed facts before us. Variation with respect to age, the relative importance of variation in the two sexes and in different seasons are all important factors upon which he is silent as also the exact relative value given to the different measurements and the coloration of different areas.

(2) The plea with which he ends his paper as to whether the time has not come when a decision must be made as to whether workers are to continue making an endless series of finely drawn subspecies, can hardly be taken seriously. We cannot stop the publication of new subspecies. Everyone has a right to publish what he pleases in this line of research and it is being done everywhere. At the present time in botany, entomology, conchology, mammalogy, ichthyology, etc., and in every country of the civilized world, from Japan to South Africa and Argentina systematists are busily engaged in separating out geographic forms, often on very minute characters, with the object of furnishing the materials for studies of variation, effect of environment, inheritance, zoogeography, etc. This is what subspecies are for.

Yet in these other scientific fields no one rises up to call for a check on the activity of the systematist as is so often done in ornithology. This is apparently because there are in these sciences no great armies of students engaged in the study of habits, behaviour and other phases of field work, and why is the ornithological systematist to be halted simply because his science is blessed with a wider field of activity than is that of the botanist, ichthyologist, etc.

The designation of geographic forms in all these fields, including ornithology, is for use in working out the problems above referred to. Subspecies are not intended for the use of the general observer of birds, the student of life history, of nesting habits, etc. His lines of investigation, while of fully equal importance, do not require the use of subspecies. It has often been asked "How is the 'ordinary ornithologist' to diagnose these finely cut sub-

species?" but why should he be expected to diagnose them? The general medical practitioner of today does not attempt to diagnose a difficult case, but refers it at once to a specialist, and the specialist in ornithological speciation thoroughly trained in the work is able to perceive many things that the 'ordinary ornithologist' cannot, and can distinguish races with ease which appear to the latter to be inseparable.

The claim is made that while there is no objection to the specialist studying and describing minute variations they should not be named nor placed in our 'Check-List'. But who is to be the judge of what to put into a 'Check-List' and what to leave out? The minute we begin to reject subspecies upon grounds of insufficient differences we get entangled in the meshes of individual opinion. Those who believe in the validity of the forms in question will go on using them and those who look up these same forms in the 'Check-List' and fail to find them will blame the authors!

It would seem best therefore to admit all properly worked-out subspecies in our 'Check-List' on their merits so that those interested in subspecific differentiation can find them, while those to whose work subspecies do not apply may fall back upon the binomial name. Doubtless some subspecies will not stand the test of time and variations supposed to be racial will prove to be individual, but in all investigations the *entire range* of the form must be considered not merely the region of intergradation. There has been no way suggested as yet indicating geographic variations except by the use of the trinomials and until some generally adopted method is available we shall gain nothing by flying in the face of the rest of the scientific world in rejecting the present method, except a reputation for provincialism.

There is one more point that seems to have been lost sight of by the opponents of the "subspecies" and that is that a subspecies is not distinguished from a species by degree of difference. On the contrary intergradation is the criterion of the subspecies. If two geographic forms are still connected by an area of intergradation in which intermediates occur they are subspecies; but if the intermediates have disappeared and the two forms are completely distinct they are species. It, however, often happens that there are species that are far more difficult to distinguish from one

another than many subspecies are, as for instance the species of small Flycatchers of the genus *Empidonax*; while on the other hand there are subspecies which are so different from one another that any one can distinguish them, such as the great Song Sparrows of Alaska or the Desert Song Sparrow of southern California.

Consequently in popular works where the object is to present all of the *kinds* of birds that the 'ordinary ornithologist' can distinguish it would seem that we must go along on the principle of degree of difference and ignore the problem of intergradation, entering in the work some trinomial forms among the prevalent binomials. By dropping all subspecies, and hewing strictly to the binomial line as has been sometimes done we drop a number of very distinct forms which we cannot afford to ignore. It would indeed seem quite within reason to publish a "field student's check-list" on this plan, allowing the regular A. O. U. 'Check-List' to cover the entire field in all the technical detail as at present. The writer has no desire to start arguments on this subject, which experience has shown are endless, but merely to present some suggestions for what they may be worth.—WITMER STONE.]

A VISIT TO THE QUEEN CHARLOTTE ISLANDS.¹

BY REV. C. J. YOUNG.

I HAVE striven to visit localities in Canada for years past with the view of gaining a personal knowledge of the birds, their breeding habits, eggs and summer movements. With this object I went last spring to Massett, Queen Charlotte Islands, and in that neighborhood spent most of the months of May and June, 1926 with my friend S. J. Darcus.

The islands, or rather Graham Island, the largest and most northern, is about 550 miles north of Vancouver, B. C. It lies between latitude 53 and 54 N. and longitude 132 and 133 W.; the climate is damp but quite mild. There is no excessive heat or cold and while rains are very frequent there are dry periods in summer.

The northeastern part of Graham Island is low with gently undulating sand and gravelly tracts along the coast, while inland there is a dense growth of cedar, hemlock and spruce, varied by occasional swamps and muskeg. The southwestern part is mountainous and very rough, with altitudes varying from 1000 to nearly 3000 ft. In such a diversified country a variety of birds, especially waders, is to be met with.

We left Vancouver on the afternoon of May 22. The weather was fine and pleasant during the remainder of that and most of the following days. The coast scenery of British Columbia is grand and imposing with high snow-clad mountains in the background. To the left lies Vancouver Island; it too has its mountains and rugged scenery, but its east coast is not as varied as is the coast of the mainland. Sea birds were by no means plentiful, and were probably at their breeding stations on some of the rocky islets in the Straits of Georgia at this season, though a large escort of Glaucous-winged Gulls and an occasional Herring Gull accompanied the steamer. We noticed some Violet-green Cormorants, Ducks, mostly Scoters, some Marbled Murrelets and Dusky Shearwaters; an occasional pair of Pigeon Guillemots and a few pairs of Murres were always present. These were all the birds we

¹ Read at the Ottawa Meeting of the A. O. U.

saw. The Marbled Murrelet has been stated to breed on some of the islands of the Straits but this is mere assumption and is probably incorrect, for though a common bird in the waters of Vancouver and the Queen Charlotte Islands, its actual breeding haunts have never been located. The egg is unknown except for the one specimen that was taken from a bird shot some years ago and now in the U. S. National Museum.

My friend S. J. Darcus has paid much attention to these birds in the hope of finding a breeding place. Along with myself he spent some time at Toffin's Inlet, Vancouver Island, in June 1925. The bird was abundant in that locality and from there northward to Langara and Forrester Island, Alaska, seems to be the center of its abundance. We saw numbers of them in the open waters of the Pacific and along the coast during the day; at night they left the sea and flew inland. This is what he writes me from his home in British Columbia—"My observations of the breeding habits of the Marbled Murrelet in 1925 were as follows: the species undoubtedly nests in the mountains of the west coast of Vancouver Island; I have observed it flying in numbers towards the mountain peaks twenty miles from the sea during the months of June and July. I have also observed the species in Kennedy Lake (head of Tofino Inlet) in the fresh water. Its breeding quarters are apparently in the higher peaks, about 4000 feet above sea level.

"On June 30, 1925 I ascended a mountain which overhangs Kennedy Lake in order to search for a breeding place of the species. From the summit of this mountain, 4600 feet above sea level, I obtained a good view of the neighboring peaks in which I believe the species nests. As my time was limited I could not make further observations but I saw Marbled Murrelets flying towards these peaks which were still snow covered. On the peak on which I stood, a colony of Black Swifts was nesting in crevices on the cliff face, the nests containing young at that date (June 30). I found the majority of the nesting crevices inaccessible, but was able to reach several. With regard to the Murrelets I have frequently observed the species rising from the sea, carrying small fish and flying toward the mountains. I certainly have no objection to your using my notes and mentioning my name."

The eggs are probably laid in May, so by June they would have

mostly hatched. In 1926 we saw numbers of the birds about Langara Island (45 miles west of Massett) and from our observations at that time had reason to believe they were breeding in the rocky interior there and in the mountains farther down the coast of Graham Island. The Straits of Georgia are full of rocky islands but beyond Glaucous-winged Gulls, Cormorants, Sea Pigeons and Tufted Puffins, few if any sea birds are to be found breeding there.

After passing the Straits we crossed Queen Charlotte Sound, noting Cape Scott and Triangle Island,—a breeding station for Cassin's Auklet—on the left, and later reached Skedegate in the evening of May 24 and Massett on the following morning.

After locating ourselves we proceeded to make plans for bird study and investigation during our stay. Mr. Darcus started to walk along the beach to Tow Hill and Rose Spit. The receding tide leaves the sand hard and firm. Automobiles pass over it with ease, to and fro, to Tow Hill, about eighteen miles from Massett and thence to Rose Spit, a further seven miles. I proceeded there on June 4. Breeding birds were not numerous. Spending two whole days on the spit—a projection extending three miles or further from the main shore—I only met with the Semipalmated Plover. There is a colony of them there and scattered pairs along the beach towards Massett. Probably from twenty-five to fifty pairs breed: we found fourteen nests. The two I found were well inland from the sea among sand and small stones, with no vegetation near. The first nest on June 6 contained four eggs highly incubated; I took photographs but did not further disturb it. The second nest I located the following day when the young had just hatched and lay huddled together, an unusual occurrence.

The nests we found were similar to those of the Piping Plover or the Ring Plover of Europe, lined or environed with pieces of clam shells and small pebbles, with no grass or other material. The only other birds I saw on the spit were some immature and non-breeding Glaucous-winged Gulls, a Black-bellied Plover, a flock of migrating Sandpipers, Least and Semipalmated, four Bald Eagles, some Ravens and a Queen Charlotte Jay (subspecies of the Steller's Jay) in the spruce trees that fringe the shore. On the Spit itself I did not see a Sparrow of any kind or other bird except the Plovers and Gulls, a birdless and most desolate place in June.

Between here and Massett we only saw one pair of Black Oyster-catchers. They had their nest at Yakan Point near Tow Hill.

While at Rose Spit I stayed at a settler's house near the shore. A mile west of the Spit I was interested to see a pair of Pheasants with three young ones. A few Pheasants some years before were introduced into the island but not many survived. The Crow has been their principal enemy, watching for the young and taking them as soon as they hatched. Besides the Pheasant I noticed a Sooty Grouse with young and heard Robins and Thrushes.

After my stay of three days at Rose Spit I returned to Massett. On the west side of the Inlet the country is heavily timbered with cedars and spruce. The tides are very strong and rise rapidly, at times to a considerable height, flooding the adjacent marshes. Black Oystercatchers were common at various points and amongst pebbles on a rocky islet I found two nests, close together. The eggs are laid amongst the pebbles with scarcely any nest, but a depression lined with stones and a few bits of shell serves for one. Both nest and eggs are similar to the European Oystercatcher's except that the eggs are a trifle smaller and darker. The nest of the European bird is placed on the open beach or on beds of pebbles in river channels. Besides a few non-breeding Gulls the only birds seen here were a pair of Wandering Tattlers on the beach, some Cormorants, Auklets and Pigeon Guillemots about the mouth of the Inlet, and in grassy spots on shore, Townsend's Sparrow, and Rusty or Sooty Song Sparrows, the latter with young.

About Massett the dense undergrowth in the woods and the swampy nature of the country in many places, deters one, especially if alone, from exploring and investigating bird-life. However I noticed a few Warblers, the Lutescent, Black-throated Gray, Audubon's, and two others not positively identified. We found no Warblers' nests.

The Russet-backed Thrush was very abundant. It may have arrived earlier but we did not notice it until June 1 after which it was everywhere. Mr. Darcus found a nest with young just hatched in a small spruce near the house on June 28. Robins were very common, about the inlet, along the shore and wherever we

went. They had young out of the nest when we arrived. Crows were numerous about Massett and along the coast and Ravens were by no means uncommon. The Queen Charlotte Jay which is said to have been abundant is not so now and I saw only one. Kingfishers are plentiful and breed in the sandy banks; we found two of their burrows. Winter Wrens were abundant and we saw them everywhere in the woods. S. J. Darcus found a nest with six eggs in an upturned root, near the village on June 7. I did not see the Varied Thrush but my friend saw several and we heard of a nest built in a small hemlock, that contained five eggs. Every evening when the water was low four or five Great Blue Herons would come to Delcatla Inlet near Massett, to fish.

They were quite tame and gave the impression that a heronry was not far away.

The Rufous Hummingbird was very common almost as much so as it is at Tofina on the west coast of Vancouver Island where in 1925 I found five nests on one small island. They were built in the salal brush or in cinamox bushes, but about Massett these birds appear to build chiefly on dead spruce limbs covered with moss-like lichens and not so low down.

Townsend's Sparrow (*Passerella iliaca unalaschensis*) was common and we found a nest with young among the under brush near the sea shore on June 17.

Mr. Darcus left for Langara on June 8 and spent a fortnight there while I went later and spent a few days. With the exception of the lighthouse keeper, his wife and assistant there is only one man living on the island. In June and July a number of Indians fish there and occupy shacks at the beach opposite Lucy Island. The Ancient Murrelet breeds in this vicinity and on Lucy Island in numbers and along with them some Cassin's Auklets. The Murrelets outnumber the Auklets about three to one but their burrows are intermingled to some extent. I noticed that the Auklets were nearer to the sea and I found few of them farther than 100 feet from the rocky coast line while the Murrelets were sometimes several hundred feet and more from the coast, with burrows in the moss and among the twisted roots of the spruce trees. This may not be the condition at other points but so I found it at Langara.

On June 16 and 17 I took eggs of the Ancient Murrelet of which

the fresh ones seemed to be a second laying as some were highly incubated and a few had hatched. The Indian boys gather them for food and use them whether fresh or otherwise. Many of the nests were quite accessible the burrows extending into the soil or among the spruce roots for from three to four feet. Cassin's Auklet appears to breed earlier and I found only one egg although I saw young hatched probably a week or ten days before, while some of the burrows were empty. The Pigeon Guillemots were numerous along the rocky shores of Langara Island. Their first eggs were laid about June 15, often in very inaccessible places. I found broken egg shells on Lucy Island. The Rhinoceros Auklet is not uncommon; we saw them in Massett Inlet and Darcus found them breeding on an islet near Cape Knox on the west coast but did not get the eggs.

The interior of Langara is not so densely wooded as is Graham Island. There are muskegs and several small ponds but no lakes. Darcus walked from the southern extremity to the lighthouse about twenty miles but did not meet with many birds—Peale's Falcon, a few Sandpipers, Juncos and Sparrows. At the lighthouse I was surprised to find Barn Swallows nesting and one had a nest with five eggs in the porch of the dwelling house. Ancient Murrelets and Cassin's Auklets had burrows here and we noticed the following sea birds on the adjacent waters: Pacific and Common Loons, Tufted Puffin, Rhinoceros and Cassin's Auklets, Ancient and Marbled Murrelets, Pigeon Guillemot, Dusky Shearwater, White-crested and Violet-green Cormorants, Glaucous-winged and Herring Gulls, American and Red-breasted Mergansers, White-winged and Surf Scoters, Harlequin Duck, Canada Goose, Northwest Heron and Sandhill Crane. We were informed that the Sandhill Crane bred in the muskeg a few miles from Rose Spit and probably does elsewhere on Graham Island. The Lesser Yellow-legs is also reported to breed but we had no actual evidence.

Additional land birds observed included Siskins, the Oregon Junco and two pairs of Pine Grosbeaks.

*Carrying Place,
Ontario, Canada.*

ADDITIONAL NOTES ON THE BIRDS OF MONTGOMERY
CO., VIRGINIA.

BY ELLISON A. SMYTH, JR.

THE following are addenda to my list of the birds of Montgomery Co., Virginia, published in Vol. XXIX, No. 4, of 'The Auk,' October 1912. Since that date, and up to April 14, 1925, thirteen new forms have been recorded, increasing the avifauna of this locality to 208 species. Also the further occurrence of several species hitherto recorded but once or twice seems noteworthy.

***Colymbus holboelli*.** HOLBOELL'S GREBE.—One specimen secured from the College ice-pond, January 26, 1914. A new record.

***Hydrochelidon nigra surinamensis*.** BLACK TERN.—An immature specimen seen on September 14, 1912. Second record.

***Larus philadelphia*.** BONAPARTE'S GULL.—An adult spent a day on the College ice-pond, January 1, 1924. All of my other records are for early spring.

***Chaulelasmus streperus*.** GADWALL.—A male and female visited the ice-pond on February 26, 1922 and spent two days there. Not wild, and allowed a close approach. New record.

***Mareca americana*.** BALDPATE.—Additional records, one male February 5, 1923, and a female March 15, 1916.

***Nettion carolinense*.** GREEN-WINGED TEAL.—An additional record of a male on February 26, 1922, in company with the pair of Gadwalls above noted.

***Marila valisineria*.** CANVAS-BACK.—A second record, a fine male secured from the ice-pond December 27, 1922.

***Glaucionetta clangula americana*.** GOLDEN-EYE.—Three females on ice-pond on January 11, 1924. Very wild, and remained only a few minutes. New record.

***Clangula hyemalis*.** OLD-SQUAW. A female on ice-pond March 4, 1917. Quite tame and remained two days in company with a pair of Ring-necks. New record.

***Erismatura jamaicensis*.** RUDDY DUCK.—Additional records of a female killed December 4, 1920, and a pair, male and female, the former in full adult plumage, March 15, 1920.

***Ixobrychus exilis*.** LEAST BITTERN.—One specimen, a male, secured at quarry pond, June 12, 1922. New record.

***Rallus virginianus*.** VIRGINIA RAIL.—My earlier records indicate a scarcity; since then, I have found it regularly in suitable localities, especially in the fall.

Coturnicops noveboracensis. YELLOW RAIL.—Three specimens secured in October 1915 and others seen. Doubtless occurs regularly, but is hard to find without a dog, owing to its skulking habits. New record.

Phalaropus fulicarius. RED PHALAROPE.—One specimen secured September 21, 1912, in company with Pectoral Sandpipers. New record.

(A specimen of *Lobipes lobatus*, Northern Phalarops, was killed and sent to me, from Hampden-Sidney College, Prince Edward Co., Va., September 25, 1920.)

Polidna alpina sakhalina. RED-BACKED SANDPIPER.—I saw a beautiful full plumaged specimen, with light red back and black belly, in company with Lesser Yellow-legs, Spotted and Solitary Sandpipers, feeding along the mud banks of a stream near the College, on May 18, 1924. It was very tame and allowed a close approach. We watched it feeding for some time, but as identification was absolute, did not secure it. New record.

Ereunetes pusillus. SEMIPALMATED SANDPIPER.—One specimen secured from among a number of Pectorals, September 24, 1912. New record.

Coragyps urubu. BLACK VULTURE.—Since former records, I have found this Vulture occurring at irregular but frequent intervals, and often a number together.

Buteo borealis. RED-TAILED HAWK.—Not before quoted as breeding. A nest with full fledged young found in May, 1914.

Falco peregrinus anatum. DUCK HAWK.—A fine full-plumaged specimen in adult phase flew in chase of a Pigeon within short range as I stood in my yard, on March 18, 1916. So close did it come that the details of marking were unmistakable. Not secured. A second record.

Falco columbarius columbarius. PIGEON HAWK.—On October 3, 1920 a single bird flew over my yard, close enough to distinguish easily from a Sparrow Hawk. Second record for this locality.

Asio wilsonianus. LONG-EARED OWL.—A pair was seen in evergreens on Brush Mountain, near the College, on November 26, 1915 and one secured. New record.

Ceryle a. alcyon. BELTED KINGFISHER.—My former records give August 7 as the latest date Kingfishers were seen here. I have a later record, for October 13.

Sturnus vulgaris. EUROPEAN STARLING.—This pest was first seen here on December 9, 1917, when a pair alighted on the roof of my house. Becoming more and more frequent, they were first found breeding in 1921. Now a resident, and in large flocks, driving Blue-birds and Flickers from their nesting holes, which the Starling appropriate, if undisturbed, destroying such eggs as they find there.

Euphagus carolinus. RUSTY BLACKBIRD.—Heretofore noted as leaving by March 19. This year, 1925, still here on April 10.

Loxia leucoptera. WHITE-WINGED CROSSBILL.—A flock of about fifteen, sexes nearly equally mixed, appeared on the College campus on January 25, 1920. They were very tame, feeding on the ground under the

campus trees, and allowed a close approach so easily that two, a male and female, were caught under a hat. I had no difficulty in quietly approaching to within a yard of them, while feeding on the ground. A cat profited by their tameness and caught a number. They were here several days. This was doubtless part of the southern flight recorded about this same date by Mr. Earle A. Brooks, in 'The Auk,' Vol. XXXVII, No. 3, for July, 1920. New record.

Zonotrichia leucophrys leucophrys. WHITE-CROWNED SPARROW.—In my former list, this bird was noted as occurring here only in early May, and again in mid-October. This winter, 1925, on January 24, several individuals with brown heads were seen. They appeared frequently at the feeding stations in my yard and as many as a dozen were seen at one time in suitable localities around the campus. They have been here continuously, and for the past three days (April 11 to 14). White-headed individuals are in evidence.

Piranga erythromelas. SCARLET TANAGER.—In my former list is the following statement: "Red males pass South July 4 to 17." As some doubt has been cast upon this statement, that the males were still red at these dates, I wish to assert positively. Both from my recollections, and from the very definite notes in my journal that on July 4, and again on the 17th, I saw a red male Scarlet Tanager. Neither was killed, so that I cannot say that they had no green feathers among the red, but to the eye, they were red.

Stelgidopteryx serripennis. ROUGH-WINGED SWALLOW.—One secured in Spring of 1913. Doubtless occurs regularly. New record.

Lanius ludovicianus. LOGGERHEAD SHRIKE.—An interesting exhibit of a Shrike's butcher habits was noted on February 22, 1918. Some corn shocks were being moved from the field, and a number of short-tailed meadow mice were disturbed and ran out on the snow. A Shrike flew after these and killed a number leaving them on the snow with crushed skulls.

Wilsonia canadensis. CANADA WARBLER.—My former list notes only one occurrence, an immature bird in August. Since 1912 I have found them frequent in the spring migration, and during a sudden cold snap in April, I found a dead male, in full plumage.

This brings my records up to April 14, 1925, from July 1891, though only the first twenty years or so are close records. During this period of thirty-four years I have recorded 208 species of birds in Montgomery Co., Virginia within a radius of ten miles from the town of Blacksburg, where the Virginia Polytechnic Institute is located.

Dr. Rives, in his 'Catalogue of the Birds of the Virginias,' 1890, notes only 305 species for the whole of state Virginia.

Virginia Polytechnic Institute,
Blacksburg, Va.

NOTES ON SUMMER BIRDS OF SOUTHWESTERN KANSAS.

BY JEAN LINSDALE.

The work on which the following notes are based was carried on from June 11, to August 2, 1921, for the Kansas University Biological Survey. The principal aim of the trip was to learn, "the present standing of each species of bird occurring in the particular part of the state visited." Stops were made at five localities in southwestern Kansas, and information was obtained concerning the distribution and the relative abundance of nearly all the summer resident birds of the southwestern part of the state.

Since very little work has been done on the birds of this section, and practically none since present methods of farming have been used, a knowledge of the standing of the birds there should be of particular interest.

ITINERARY.

Pratt, Pratt County, June 11 to 26.

Garden City, Finney County, June 27 to 30.

Oanica, Kearney County, July 1 to 10.

Coolidge, Hamilton County, July 11 to 27.

Gove, Gove County, July 28 to August 2.

Several short trips were made from each of these locations into the surrounding territory.

GENERAL ACCOUNT OF THE LOCALITIES VISITED.

PRATT.—Most of the work at Pratt was done at the Kansas State Fish Hatchery, which is three and one-half miles southeast of Pratt, Pratt County. The surrounding territory is rich farming land, wheat being the chief crop. Corn, kafir, oats, sorghum, and alfalfa are important in the order named. About three-fourths of the land in the county is under cultivation. The rest is in pasture. Most of the land is slightly rolling, although the narrow Ninnescah valley, which runs past the hatchery, makes a few breaks. Most of the farms have no trees of any kind, but a few farmers have set

out groves of young trees recently. Most of the trees in the vicinity are scattered along the river; the largest groves being at the hatchery and at the source of the river, about ten miles north-west. Nearly all the trees are cottonwoods and willows. Some catalpa, Russian mulberry, osage-orange, and a few apple trees have been set out. Near the source of the river many dead limbs and trees are standing, which furnish nesting sites for birds that require that type. At the hatchery all dead limbs and trees have been cut. Plum thickets fill most of the draws in the pastures.

The Ninnescah River, which starts a few miles north-west, is fed by under ground springs at its source and at frequent intervals along its course, so that it widens rapidly. It is not deep and near the hatchery the banks rise abruptly two or three feet. This leaves no beach for shore birds. The water is clear and flows fairly fast.

The ninety-seven acre-ponds at the hatchery are all connected and are built so that each bank serves for two ponds. Each bank is wide enough for a road on top. The tall grass on the banks is allowed to grow during the nesting season and furnishes cover for ground nesting birds.

South of Pratt in the Medicine Lodge River valley, a different type of country is encountered. The valleys are deeper and the timber along the streams is more varied. Birds and mammals in this section are different from those in most other parts of the state. A part of one day, June 19, was spent at Sun City, which is in that region.

Except for a few rains, most of them at night, weather conditions were favorable during the time spent at Pratt. Nearly all the birds were nesting. Many had young just out of the nest. The absence of birds which nest in hollow trees was particularly noticeable. Fish eating birds persist in staying around the hatchery, although they are killed at sight by those in charge.

GARDEN CITY is on the Arkansas River in Finney County and about sixty miles east of the west line of the state. Less than half the land in the county is in cultivation. Vegetation on the upland is chiefly buffalo grass. Wheat and sorghum are the chief cultivated crops. Alfalfa and sugar-beets are grown in the valley where there is some irrigation. Many good sized groves of cotton-

wood, catalpa, mulberry, and other trees have been planted along the river. Rainfall each year at Garden City is less than twenty inches, while evaporation during the growing season is well over sixty inches. The ground water level comes to within six feet of the surface in some places along the river. In some places the water is so near the surface that the roots of the plants (alfalfa) are drowned. Residents of the town say that within the last few years the number of birds has increased along with the increase in the amount of vegetation which has been considerable around the town.

About fifteen miles northwest of Garden City is a lake, owned by a land and irrigation company, that is said to be the largest in Kansas. It was made by building a dam across the narrow end of a valley and running river water into it through a canal. The lake when full is six miles long by three miles wide. Ducks and other water birds make this a stopping place from early fall to late spring.

No work could be done along the river here on account of the June flood, the mud being not yet dry.

OANICA.—The two houses on the Bruner ranch, fifteen miles north of Lakin, Kearney County, constitute what was formerly called Oanica. The houses are surrounded by a few locust and mulberry trees, which are little more than bushes. Some fruit trees have been set out. Vegetation is limited because of the lack of water. The first large draw north of the Arkansas River, fifteen miles south, runs near the houses, but contains no water. The water which it carries during a rain spreads out over the sand near the east line of the county. Away from this draw, the land is nearly level. Out of the three thousand acres in the ranch not more than two hundred are cultivated. The rest are covered with buffalo grass and sage brush and are used for pasture. Cattle raising is the chief business here. Only enough land is under cultivation to raise roughage to winter the stock. The chief crops are wheat and sorghums. 1921 was an exceptionally good year for most crops.

The nesting season was well advanced at the time spent here. Most of birds having young out of the nest.

COOLIDGE.—Most of the time at Coolidge was spent on the Shanstrom farm which consists of five-hundred acres along the

Arkansas River and about three miles east of the Colorado-Kansas line. A few acres of willows and cottonwoods have been left growing along the river. Surrounding the house is a thicket of more than an acre of trees planted so closely together that the house cannot be seen from outside the thicket. Cottonwood, pear, apple, walnut, mulberry, catalpa, and other trees are growing here. Many vines (grape) and bushes have been planted. Some blue-grass is growing. The farm is irrigated by river water. An artesian well near the house furnishes water for two small fish ponds and a permanent supply of water for birds.

Along the river alfalfa is the chief crop, although others can be grown because of the irrigation. On the upland some crops are grown by dry farming methods. An increasing amount of land is put into cultivation each year. A narrow strip in the flood plain along the river is left for pasture and for hay.

North of the river for about twelve miles the land is cut by numerous draws. A few of the low ridges have outcropping rocks. North of this is a section called "the flats" where practically no erosion has taken place and where there is almost no water run-off. Very short buffalo grass makes up most of the vegetation. About twenty acres are required to pasture one cow.

South of the river there is a strip of sand hills which is from four to twenty miles wide. The hills are low and in some places the undersoil shows through. Sage brush and bunch-grass, six inches to two feet high, cover most of the hills. In a few places there is no grass and the sand moves at all seasons, but most of the shifting takes place in the winter. South of the sand hills there is a border of land where yucca is growing fairly thickly. South of this there is another broad belt of dry, nearly flat, plains.

The June flood of the Arkansas River and the extra large amount of rain which this section received helped make birds more plentiful in the summer of 1921 than usual. Birds are concentrated along the river, especially in migrations, on account of the wide almost desert belts on either side. The irrigation has a lesser effect on Kansas birds than it does on those of eastern Colorado, but the bird life along the river has been changed greatly, even in Kansas, by irrigation.

GOVE.—Work in this locality was done on the Mendenhall ranch

which is five and one-half miles southeast of Gove, Gove County. A grove of ten acres of trees near the house on this place includes nearly all the trees in that part of the county. Hackberry creek, which runs near the houses, has a few water holes, but is generally dry. There is very little brush along the creek. The grass is in some places about a foot high and furnishes good cover for ground nesting birds. Wheat is the chief crop. Pasture is good and a great deal of stock is raised.

The chalk cliffs and beds are exposed near here furnish nesting sites for many kinds of birds.

It was excessively hot and dry during the time spent here.

ACKNOWLEDGMENTS

Help from several people who made this trip possible is greatly appreciated. Among these are: Dr. C. E. Johnson, who directed the work and made Biological Survey funds available; Mr. Alva Clapp, then Kansas Fish and Game Warden, Mr. Ralph Miller of Lakin, Mr. R. T. Shanstrom of Coolidge, Mr. R. H. Mendenhall of Gove, all of whom furnished lodging, transportation, and other help while I was in their localities; Mr. C. D. Bunker, who loaned collecting material; Dr. Alexander Wetmore, who identified some of the bird skins collected; and Dr. H. H. Lane, who made suggestions for writing this report.

ANNOTATED LIST OF BIRDS

Podilymbus podiceps. PIED-BILLED GREBE.—A single individual was seen on one of the hatchery ponds at Pratt on June 16.

Chlidonias nigra surinamensis. BLACK TERN.—On July 21, 22, and 25 Black Terns were feeding over pools of water in the flood plain of the Arkansas River at Coolidge. Most of them were moving east down the river.

Anas platyrhynchos. MALLARD.—One was seen in some marshy ground along the Arkansas River, a few yards west of the Colorado-Kansas line, on July 12.

Glaucionetta clangula americana. GOLDEN-EYE.—A crippled Golden-eye stayed at the State Fish Hatchery at Pratt all summer.

Botaurus lentiginosus. BITTERN.—One was seen at the edge of a small pool of water along a road near Coolidge on July 17 and another at the same place on July 25.

Ardea herodias herodias. GREAT BLUE HERON.—Several were feeding along the Arkansas River at Coolidge, July 15.

Butorides virescens virescens. GREEN HERON.—Green Herons were seen almost daily around the hatchery ponds at Pratt. A nest containing three nearly grown young was found in an apple tree near a small lake six miles northeast of the hatchery on June 18.

Nycticorax nycticorax naevius. BLACK-CROWNED NIGHT HERON.—Several were found at the hatchery at Pratt. During the day, they remained in the tops of the taller trees along the Ninnescah River, but came to the fish ponds to feed at night.

A nest was found at Coolidge on July 14. It was in the top of a tall cottonwood tree along the Arkansas River, and held young that were nearly grown.

An immature female was shot in a grove of trees on the Mendenhall ranch near Gove on July 30.

Rallus elegans. KING RAIL.—A pair with black, downy young, two of which were seen, was found on the north edge of the hatchery at Pratt on June 12. The adults appeared to be very nervous and after the young were all out of sight, they kept coming back to within three or four feet of the intruder and continued cackling for several minutes. On June 14, a pair with several young was seen in a different part of the hatchery. On June 20, a deserted nest with two unhatched eggs was found in the tall grass between two of the fish ponds.

Fulica americana. COOT.—Several were seen on the ponds at the hatchery at Pratt. The hatchery workers shot them at every opportunity.

Totanus flavipes. YELLOWLEGS.—On July 12, a small flock was seen in the marshy ground along the Arkansas River west of Coolidge.

Tringa solitaria solitaria. SOLITARY SANDPIPER.—Some were seen on the wet ground along the river at Coolidge on July 13, and daily from July 20 to 25.

Bartramia longicauda. UPLAND PLOVER.—A young female was shot on the plains south of Coolidge on July 13.

Actitis macularia. SPOTTED SANDPIPER.—These birds were common along the river at Coolidge after July 13.

Oxyechus vociferus. KILLDEER.—Common at all the localities visited.

Podasocys montanus. MOUNTAIN PLOVER.—July 27, a flock was seen near a ranch house on the flat plains northeast of Coolidge.

Colinus virginianus virginianus. BOB-WHITE.—A few were seen and heard calling at Pratt, Garden City, and Coolidge.

Zenaidura macroura marginella. WESTERN MOURNING DOVE.—Doves were common at all the localities and were found nesting at Pratt and Garden City. On July 14 two young, almost large enough to fly, were thrown out of a nest in a tall tree at the hatchery at Pratt by Blue Jays.

Tympanuchus americanus americanus. PRAIRIE CHICKEN.—A Prairie Chicken was flushed from the side of the road between Shields and Gove on July 27. This was the only one seen during the summer. Residents say that these birds nest commonly in the sand hills south of the

Arkansas River, and farmers near the river at Lakin claim that they do considerable damage to the crops in the fields when they feed in large flocks in the fall.

Cathartes aura septentrionalis. TURKEY VULTURE.—A few were seen soaring at Pratt. They appeared to be more common at Sun City, thirty miles south, in Barber County. A large flock near Coolidge spent most of the time flying over the river or standing on the sand in the river bed.

Ictinia mississippiensis. MISSISSIPPI KITE.—Several were seen flying over the timber along the Medicine Lodge River at Sun City on June 19. One nest was seen in the crotch of a large tree and about twenty-five feet from the ground. An adult was brooding.

Circus hudsonius. MARSH HAWK.—Marsh Hawks were seen flying over marshy ground along the Arkansas River at Coolidge on July 12 and 17. Several were seen on the Mendenhall ranch at Gove. Mr. R. H. Mendenhall said that earlier in the summer he has found a nest of this bird with four young. It was in some tall grass in a draw near his house.

Buteo swainsoni. SWAINSON'S HAWK.—At Pratt, this Hawk was seen on June 15 and 19. It was seen at Oanica on July 6 and 11, on the plains north of Coolidge on July 19, 20, and 27, and in Gove County July 27 and 30. The birds were generally flying over the prairie or resting on the tops of telephone poles along the roads.

Archibuteo ferrugineus. FERRUGINEUS ROUGH-LEG.—Two were observed at Pratt on June 17. One was seen soaring over a Barn Owl that was on the ground on the prairie at Oanica, July 2. They were found on the prairie north of Coolidge on July 17 and 27. July 30, several were noted at Gove.

Aquila chrysaetos. GOLDEN EAGLE.—Golden Eagles were found at Coolidge on July 12 and 17. On July 23, a young one, not yet able to fly, was seen at Two Buttes, Colorado, about twenty miles west of the state line, where it had been taken from a nest.

Falco mexicanus. PRAIRIE FALCON.—Single individuals were seen on the plains north of Coolidge on July 17 and 27. All that were noted were very wild.

Cerchneis sparveria sparveria. SPARROW HAWK.—One was seen along a road near Pratt on June 18. Several were found in the timber along the Arkansas River at Coolidge. Two young were shot out of a family group that was found near a large tree which had several holes.

Tyto alba pratincola. BARN OWL.—One was found in a barn at a deserted house near Pratt, June 16 and 20. July 2, one was seen on the prairie near Oanica. This location was at least fifteen miles from any good sized group of trees. July 13, one was found in a dense clump of bushy trees near the R. T. Shanstrom house at Coolidge. Mr. Shanstrom was familiar with this Owl, but he was certain that he had never seen one in this vicinity. Another was flushed in the grove of trees on the Mendenhall ranch at Gove on July 28.

Asio flammeus. SHORT-EARED OWL.—July 27, one was seen flying over a field between Shields and Gove, in late afternoon.

Otus asio asio. SCREECH OWL.—Screech Owls were heard calling at Pratt on the evening of June 19. Others were heard on the Mendenhall ranch at Gove, July 26.

Otus asio aikenii. AIKEN'S SCREECH OWL.—A young female was shot at Coolidge on July 17. It was one of a group of half a dozen that stayed in the trees around the house on the Shanstrom farm.

Bubo virginianus pallescens. WESTERN HORNED OWL.—Owls, probably belonging to this subspecies, were flushed in the timber along the Arkansas River at Coolidge, July 13 and 26.

Speotyto cunicularia hypogaea. BURROWING OWL.—June 19, a family group was seen at a prairie dog town in the northern part of Barber County. Two were shot in a pasture at the edge of Garden City on June 29. They were common where prairie dogs were found at Oanica and Coolidge.

Coccyzus americanus americanus. YELLOW-BILLED CUCKOO.—Found commonly at every locality except Oanica. July 15, one was seen carrying nesting material along the river at Coolidge.

Ceryle alcyon alcyon. BELTED KINGFISHER.—Found at Pratt and Coolidge.

Dryobates villosus villosus. HAIRY WOODPECKER.—One was noted at Pratt on June 13 and one at Garden City, June 29. A male collected at all the places visited except Oanica.

Dryobates pubescens medianus. DOWNY WOODPECKER.—One was seen in Barber County on June 19. Another was seen in the grove on the Mendenhall farm at Gove on July 28.

Melanerpes erythrocephalus. RED-HEADED WOODPECKER.—These birds were found at all the places visited except Oanica.

Colaptes auratus luteus. NORTHERN FLICKER.—Common at Pratt and Garden City. Two were seen at Coolidge on July 15. Several were found near Gove, July 28.

Chordeiles virginianus henryi. WESTERN NIGHTHAWK.—Common over the whole territory. Several were collected.

Muscivora forficata. SCISSOR-TAILED FLYCATCHER.—A nest of this species was found in a tree along a road about one half mile south of the hatchery at Pratt on June 15. It resembled that of the Kingbird, and was about twelve feet from the ground. Others were seen in Barber County on June 19.

Tyrannus tyrannus. KINGBIRD.—Common in each of the localities. One nest was found at Pratt on June 15.

Tyrannus verticalis. ARKANSAS KINGBIRD.—Common in every part of the territory visited. At Oanica, a pair had a nest in the top of a windmill tower that was near a house. The windmill was in use every day. Another nest that was in a small tree nearby had young that were almost

ready to leave on July 6. Young, just out of the nest, were found at Coolidge on July 14 and 26.

Myiarchus crinitus. CRESTED FLYCATCHER.—Seen at Pratt on June 15 and 19.

Sayornis sayus. SAY'S PHOEBE.—Common at Coolidge. Found at deserted ranch houses and around bridges. A nest that was found July 17 on a stove in an empty schoolhouse north of Coolidge held five eggs. A nest with five young was found July 18. It was on a stringer of a bridge across the Arkansas River at Coolidge.

One was seen in the chalk cliffs near Gove on July 30.

Empidonax minimus. LEAST FLYCATCHER.—One was collected in the grove on the Mendenhall ranch at Gove on July 28.

Otocoris alpestris leucolaema. DESERT HORNED LARK.—Common on the prairie over the whole territory.

Pica pica hudsonia. MAGPIE.—A small flock was seen in the timber along the Arkansas River near Coolidge on July 11 and a single bird near the river on July 12. Mr. Shanstrom said that these birds had nested on his farm in recent years.

Cyanocitta cristata cristata. BLUE JAY.—Blue Jays were common at Pratt. A nest was found in a cottonwood tree on the hatchery on June 13. On June 14 a Blue Jay was seen throwing two young Western Mourning Doves out of their nest.

Jays were seen daily at Garden City; one was noted at Lakin on July 11, while one was collected at Coolidge on July 15 and a young bird just out of the nest was seen.

A nest was found in the grove on the Mendenhall farm near Gove and several birds were seen nearby.

Corvus brachyrhynchos brachyrhynchos. CROW.—Crows were seen daily at Pratt. On June 16, a pair was seen in a field near the hatchery seen daily at Pratt. On June 16, a pair was seen in a field near the hatchery with young just out of the nest. Several came to roost in the grove on the Mendenhall ranch at Gove.

Molothrus ater ater. COWBIRD.—This bird was found at all the localities visited except Oanica.

Xanthocephalus xanthocephalus. YELLOW-HEADED BLACKBIRD.—A small flock at Oanica on July 4.

Large flocks were feeding on the wet ground along the river at Coolidge and in the fields that were being irrigated. One was seen along a road between Shields and Gove on July 27.

Agelaius phoeniceus fortis. THICK-BILLED REDWING.—Common at Pratt, Garden City, and Coolidge.

Sturnella neglecta. WESTERN MEADOWLARK.—Found commonly over the whole territory.

Icterus spurius. ORCHARD ORIOLE.—Noted in all the localities except Oanica.

Icterus galbula. BALTIMORE ORIOLE.—Common at Pratt. Two nests were found on June 20. Several were seen at Garden City and at Gove.

Icterus bullocki. BULLOCK'S ORIOLE.—Found nesting at Garden City on June 28. At least one pair was found at Oanica. They were nesting and very common at Coolidge. On July 16, a nest was found that was fastened to a brace at the top of a telephone pole along a road east of Coolidge.

Quiscalus quiscula aeneus. BRONZED GRACKLE.—Common in all parts of the territory except Oanica.

Astragalinus tristis tristis. GOLDFINCH.—One seen at Garden City on June 27 and noted at Coolidge on July 20, 22, and 23.

Ammodramus savannarum bimaculatus. WESTERN GRASSHOPPER SPARROW.—One was collected and several were seen along a road in Barber County on June 19. Found commonly at Oanica on July 4 and in the sand hills south of Coolidge on July 12. It was observed near Coolidge on July 16 and 25. It was common on the prairie near Gove on July 30.

Chondestes grammacus strigatus. WESTERN LARK SPARROW.—Common in each of the localities visited. One was seen carrying straw at Pratt on June 19.

Peucaea cassini. CASSIN'S SPARROW.—Two were collected at Oanica, where it was common on the prairie. Found singing in the sand hills and on the plains south of Coolidge on July 12 and 25, and on the flat plains north of Coolidge on July 27. Two were collected at Coolidge.

Cardinalis cardinalis cardinalis. CARDINAL.—Several were seen on the hatchery at Pratt where one nest was found.

Hedymeles melanocephala. BLACK-HEADED GROSBEAK.—Found at Coolidge on July 13, 14, 18, 21, and 26. Several were seen at Gove on July 27.

Guiraca caerulea lazula. WESTERN BLUE GROSBEAK.—Common at Pratt. Found at Coolidge on July 11, 22, and 26.

Spiza americana. DICKCISSEL.—Common in each locality.

Calamospiza melanocorys. LARK BUNTING.—Several were seen in a patch of weeds at Oanica on July 4. They were found at Coolidge on July 12, 23, and 25, and were common along the road between Shields and Gove on July 27.

Passer domesticus. ENGLISH SPARROW.—Common around buildings in all parts of the territory.

Progne subis subis. PURPLE MARTIN.—One seen in Garden City on June 28.

Petrochelidon lunifrons lunifrons. CLIFF SWALLOW.—Several were seen flying along the Medicine Lodge River at Sun City, Barber County on June 19. After July 16, they were seen daily at Coolidge. On July 23, they were found nesting in colonies on the sides of the small canyons at Two Buttes, Colorado and were seen around the chalk cliffs at Gove on July 28.

Hirundo erythrogastra. BARN SWALLOW.—A pair was noted at Oanica on July 6, and it was found at Pratt on June 17, 18, and 19. It was common at Coolidge where one was carrying nesting material on July 15.

Iridoprocne bicolor. TREE SWALLOW.—Feeding with other Swallows near Coolidge on July 22.

Stelgidopteryx serripennis. ROUGH-WINGED SWALLOW.—A pair was seen several times flying over the hatchery ponds at Pratt.

Lanius ludovicianus excubitorides (?). WHITE-RUMPED SHRIKE.—A Shrike was common at Pratt, where two sets of young just out of the nest were seen on June 15. One of the young birds was collected, but the proper subspecific rank could not be determined. On July 12, one was seen south of the river at Coolidge.

Vireosylva gilva gilva. WARBLING VIREO.—A nest was found at Pratt on June 13, in a cottonwood tree and about twenty feet from the ground. This Vireo was heard singing on June 15 and 19 at Pratt and a male was collected at Garden City on June 28. One was found at Coolidge on July 11.

Vireo belli belli. BELL'S VIREO.—Singing in the small willows along the Arkansas River at Coolidge on July 15.

Dendroica aestiva aestiva. YELLOW WARBLER.—Found in the willows along the river at Coolidge.

Geothlypis trichas occidentalis. WESTERN YELLOWTHROAT.—Found at Pratt on June 14 and 17. A female was collected.

Icteria virens longicauda. LONG-TAILED CHAT.—Several were heard singing in the willows along the river at Coolidge on July 15. One was collected.

Mimus polyglottos leucopterus. WESTERN MOCKINGBIRD.—Common at Pratt, Garden City, and Coolidge. Young were found nearly grown at Coolidge on July 14. Specimens collected at Garden City and Coolidge were intermediate between this and the eastern race. They were molting.

Dumetella carolinensis. CATBIRD.—The Catbird was common at Pratt where a nest was found on June 14. One was seen in Garden City on June 28.

Toxostoma rufum. BROWN THRASHER.—Common at Pratt and Garden City. A few were seen at Coolidge.

Salpinctes obsoletus obsoletus. ROCK WREN.—A nest was found in a hole in a rock in an outcrop about six miles northeast of Coolidge on July 17. The hole was about three inches in diameter and the entrance was paved with small flat stones. The nest was lined with sticks and contained several young.

This Wren was heard singing around the chalk cliffs near Gove on July 28 and 30.

Thyromanes bewicki cryptus. TEXAS WREN.—Common along the Medicine Lodge River at Sun City on June 19.

Troglodytes aëdon parkmani. WESTERN HOUSE WREN.—There was at least one pair of nesting House Wrens on the hatchery at Pratt. They were nesting in the frame of a large water tank.

Penthestes atricapillus septentrionalis. LONG-TAILED CHICKADEE.—Common at Pratt. Several were seen at Gove on July 28.

Planesticus migratorius migratorius. ROBIN.—Robins were found daily at Pratt. Several were seen at Garden City on June 28. A juvenile was seen at Coolidge on July 28.

Sialia sialis sialis. BLUEBIRD.—A few Bluebirds were seen in Barber County on June 19. On June 27 and 29, they were found at Garden City and several family groups were seen on telephone wires along the road east of Coolidge.

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NOTES ON BIRDS OF THE LABRADOR PENINSULA IN
1925 AND 1926.

BY HARRISON F. LEWIS.

IN 1925 I was on the southern coast of the Labrador Peninsula and there made daily observations and notes concerning the bird life from May 4 to September 6. During that time many persons mentioned to me that they saw that the sea-birds of the region in general were increasing in numbers from year to year, and with these statements my own observations coincided. There is reason to look for an even more rapid augmentation of their numbers in future, as the Department of the Interior of the Dominion of Canada established, in the course of the year, ten bird sanctuaries along this coast, including the islands most used by the birds for nesting purposes. These sanctuaries are situated at Mingan, Betchewun, Watshishu, Fog Island, Wolf Bay, Cape Whittle, St. Mary Islands, Cape Mecattina, St. Augustine, and Bradore Bay.

The following notes, which Dr. Charles W. Townsend has very kindly reviewed in manuscript, contain the most interesting of the observations made during 1925.

In 1926 I spent the time from June 2 to September 16 in the in the same region, and my notes for this season have been added to those for 1925.

Gavia stellata. RED-THROATED LOON.—The spring migration of this species was still in progress in this region on June 12 and 13, 1926. Between the Bluff Harbour and Wolf Bay on June 12 we were overtaken and passed by four flocks of Red-throated Loons, flying eastward at a moderate height, and containing, respectively 28, 21, 11, and 18 individuals. On June 13, between Point au Maurier and Harrington Harbour, a flock of 12 of these birds passed us in a similar manner.

Fratercula arctica arctica. PUFFIN.—On July 8 and 9, 1925, Mr. C. K. McLeod and I counted with great care the occupied burrows of Puffins on Perroquet Island, in Bradore Bay. Small stakes were used to divide the surface of the island into strips of convenient size, and the burrows in each such strip were counted separately. Each occupied burrow was taken to represent at least one pair of Puffins. Old residents, who in their time had excavated hundreds of burrows on this island, assured me that each occupied burrow was the home of at least one pair of Puffins, and

that occasionally a burrow divided underground into two or three branches, with a pair of Puffins nesting at the end of each branch. A Puffin incubating an egg was found in each of six burrows which were opened at random for scientific purposes in my presence on this island on the afternoon of June 30, 1925. The total number of occupied burrows on Perroquet Island on July 8 and 9, 1925, was found by Mr. McLeod and me to be 22,102; representing 44,204 Puffins. Taking into account the Puffins which nest on the island under loose rocks, and whose homes could not be included in the above count of burrows, Perroquet Island must have been the nesting place of at least 45,000 Puffins in 1925.

Rissa tridactyla tridactyla. KITTIWAKE.—On May 8, 1925 I was shown a nesting colony of this species on Carosel Island, at the entrance of the Bay of Seven Islands. About 1000 Kittiwakes were then present, apparently preparing to nest on little ledges on the face of cliffs 30 to 75 feet high on the western side of the island. Many of the birds were standing or sitting on their little nests, but those nests into which I was able to look contained no eggs. My boatman said that this was a long-established colony, and that in the height of the breeding season the number of adult Kittiwakes was about twice as great as it was at the time of our visit.

I, and other ornithologists as well, had often passed close to this island on the mail-steamer, but I had not suspected the presence of this thriving Kittiwake colony, and I have not seen it reported by others. A thorough acquaintance with the bird-life of such a long and intricate coast can hardly be hoped for in less than a lifetime of careful study.

At Bald Island, near Betchewun, where 23 nests of the Kittiwake were found in 1924,¹ about 70 Kittiwakes returned in the spring of 1925 and were present, on and about their nests, when I visited the island on June 4. They appeared to intend to breed there, but I looked into all the nests from the top of the cliff without seeing any eggs. Messrs. L. M. Terrill and Napier Smith visited this island on June 27, and found similar conditions—Kittiwakes on and about their nests, but no eggs in sight. Mr. F. W. Salsman, whose home was only two miles distant, told me on September 3 that the Kittiwakes stayed at the island for some time after the visit of Messrs. Terrill and Smith, but finally went away without having laid any eggs. The cause of this failure to lay eggs and rear young is unknown to me. The birds were not disturbed by being robbed, for many other species of sea-fowl, with larger and more tempting eggs, in more readily accessible nests, nested in undisturbed tranquility on this island and brought off numerous young successfully in 1925.

Kittiwakes were unusually numerous about the western end of the Straits of Belle Isle in 1925. One thousand of them were observed near Bradore on June 30 and six hundred at Bonne Esperance on July 3.

Larus leucopterus. ICELAND GULL.—About noon on May 4, 1925, a fine, sunny day, I stood on the end of Clarke City pier, in the Bay of Seven

¹ 'Auk,' Vol. XLII, No. 2, p. 279.

Islands, and, with x 6 binoculars, studied carefully an adult, pearly-mantled, white-winged Gull, which was only a few yards distant from me, and below the level of my eye. I had sufficient time to study it well, and by turns I saw it flying, swimming, and standing at rest on a floating ice-cake. I could see no dark mark of any kind on its wings. Finally, as if intentionally to provide me with a direct comparison, an adult Herring Gull alighted on the ice cake and stood there about a foot distant from the White-winged Gull. I was unable to distinguish any difference in the sizes of the two birds. As a result of these observations, made under extraordinary and almost perfect conditions, I feel justified as recording this white-winged Gull as an Iceland Gull—in fact, I cannot do otherwise, unless I deny the deliberate and considered evidence of my sight. White-winged Gulls were observed on many other occasions, but were not named more definitely except in this instance because the other observations were not so unusually satisfactory. Townsend and Allen include this species in their "Birds of Labrador"¹ as a "Rare transient or winter visitor," but state that, "No definite record of the presence of this species in Labrador has been found, but it is doubtless of general occurrence coastwise in the colder months of the year."

Larus marinus. GREAT BLACK-BACKED GULL.—In 1925 this species was first observed at Betchewun by Mr. F. W. Salsman on March 20. On May 19 I found at Betchewun a nest of this species containing three eggs and another containing one egg. On June 8, at Wolf Bay, I found a Great Black-backed Gull's nest containing three eggs, two of which were hatching. These were the first hatching eggs of any kind seen by me in 1925. Although the nest containing them was in a very exposed position, they must have been incubated all through a severe snowstorm, with a high north-west gale and freezing temperatures, which occurred on May 22 and 23. This Gull nested commonly, as usual, in this region in 1925, and the above statements are given simply as records of migration, laying, and hatching.

Larus delawarensis. RING-BILLED GULL.—The colonies of this species on this coast which were visited by me in 1925, with the approximate numbers of breeding adults in each are as follows: Kegashka River (600), Fog Island Sanctuary (210), Pointe au Maurier (250), Aylmer Sound (70), Mecattina Sanctuary (60). I did not hear of any others, although there may have been some.

The colony at Pointe au Maurier is slowly recovering from the great decrease in numbers which it suffered in 1921.²

In 1924 some 600 to 800 of this species nested on Fog Island itself in a dense colony occupying only a small part of the island. They lost a great many young, apparently killed as trespassers by neighboring adults. In 1925 only about 50 Ring-bills nested on Fog Island, while about 160 others nested on two other islands in the same sanctuary. Where the other

¹ Proc. Boston Soc. Nat. Hist., Vol. XXXIII, p. 314.

² 'Auk,' Vol. XXXIX, No. 4, pp. 510-511.

adults of the 1924 colony went I do not know. The birds in the Fog Island area were carefully protected by a resident officer in both 1924 and 1925 and reared their young without human interference, and I know of no cause for the dispersion of the colony unless it be the unusually heavy loss of young in 1924, which probably took place on account of overcrowding. This species appears to be more disposed than are many others to change from one breeding-place to another.

Phalacrocorax carbo. CORMORANT.—I visited the nesting colony of this species on the cliffs of Lake Island, near Cape Whittle, on June 12 and July 21, 1925. The visit of June 12 was brief, on account of bad weather, but recently-hatched young were seen in two nests and it was observed that the white flank-patches still showed plainly on some of the adult birds.

On July 21 none of the nests in this colony contained eggs. The young birds, of which there were generally three, sometimes four, in a nest, were all of large size and well feathered, apparently nearly old enough to fly. Several of them regurgitated their last previous meal, which was generally unidentifiable, but which consisted in one instance of a rock cod. I counted 21 occupied nests of this species on the cliff, and there may possibly have been 22 in all, for one nest was so hidden under a bulge of rock that I could not determine whether it belonged to this species or to the Double-crested Cormorant. In 1924 I counted 22 occupied nests of *P. carbo* on this cliff.¹

In 1926, I observed 33 occupied nests of this species in this same colony. This is an increase of about 50 per cent over the number of such nests observed here in 1924 and 1925. About 36 pairs of Double-crested Cormorants nest on the same cliff.

Nettion carolinense. GREEN-WINGED TEAL.—On July 31, 1925, I saw an adult female Green-winged Teal with four well-feathered young in a small pond on Fog Island. The young were not yet able to fly and the old bird did not desert them. Thus I was able to observe them at leisure, both with the naked eye and with x 6 binoculars, at a distance of not more than two or three rods. This would appear to fix definitely the status of this species as a breeding bird in this region, where I have been reliably informed by residents that it is fairly common in some areas.

Histrionicus histrionicus histrionicus. HARLEQUIN DUCK.—Near one of the outer rocks in Cape Whittle Sanctuary, known as Nest Rock, I saw on July 21, 1925, a group of seven of this species, of which one was in the plumage of the adult male.

Somateria mollissima dresseri. EIDER.—In 1925 this species had a successful breeding season in this region, although it is my opinion that the proportion of successes was not as great as in the unusually favorable seasons of 1923 and 1924.

An exceptionally large number of year-old drakes was present on the coast during June, as was witnessed both by the comments of residents of the coast and by my own observations.

¹ Auk, Vol. XLII, No. 2, p. 270.

The first evidence of the separate flocking of adult drakes after mating was noticed in 1925 on June 13, when a flock of 16 drakes were seen flying eastward past the St. Mary Islands. This species was common on the southern coast of the Labrador Peninsula in 1926, but had a breeding season that was only fairly successful, as the number of young that it hatched and reared was distinctly smaller than usual.

I did not see any young Eiders in 1926 until July 4, when several broods were observed between Romaine and Washicoutai. On the very late date of August 6, much to my surprise, I flushed an Eider from a nest containing four eggs, in the Boat Islands. The reason why the breeding of this species in this region was not as successful in this year as usual is uncertain, but I incline to attribute the partial failure to the cold, late spring, which may have destroyed the vitality of many eggs before incubation began. In the eastern part of the region in question, near the Straits of Belle Isle, heavy drift ice was present in large quantities in 1926 until about the first of July.

Branta canadensis canadensis. CANADA GOOSE.—At Betchewun, the first Canada Geese in the spring of 1925 were seen by Mr. F. W. Salsman on April 7.

Branta bernicla glaucogastra. BRANT.—Although I arrived at the Bay of Seven Islands on May 4 and searched for Brant in both outer and inner parts of the bay, I did not see any until May 14. Even as late as May 10, when I made a patrol to the flats in the inner part of the bay and looked carefully for Brant, I could not find one. Other matters prevented my visiting this part of the bay again until May 14, when I found a flock of about 1100 Brant on the flats. By May 27 their numbers had increased to about 1500. On May 30 about 2000 Brant were in the inner bay and 4 flocks of 75, 18, 38, and 15 birds, respectively, were seen to pass in through the outer bay during the day. The chief migration of this species, however, passed Seven Islands after my departure on June 2. The part of the Bay of Seven Islands where I found the Brant feeding and resting is about two miles from the steamship route across the outer bay and is partly hidden from it by a bend in the eastern shore of the bay, which probably accounts for the fact that Townsend and Bent saw no Brant when they crossed the bay on the mail-steamer on May 23, 1909.¹

Totanus melanoleucus. GREATER YELLOW-LEGS.—Three types of the rolling yodle of this species have been recorded by me in this region. They are as follows:

whiddler, whiddler, whiddler, whiddler, etc.

ùëwar, ùëwar, ùëwar, ùëwar, etc.

rytëer, rytëer, rytëer, rytëer, etc.

The third form is not as common as either of the others. These yodles are heard so frequently in May and June and so rarely later in the summer that they appear to be connected with the season of mating and nesting and to be entitled to be termed songs.

¹ Auk, Vol. XXVII, No. 1, p. 12.

Oxyechus vociferus. KILLDEER.—Beside Patterson Brook, where it spreads out on the beach, about three miles west of Mingan, I flushed a Killdeer from the edge of the fresh water early on the morning of May 24, 1925. As it flushed I noted its large size and the characteristic Killdeer cries of alarm. It soon alighted again and I followed it and studied it at leisure, as it stood and as it flew, flushing it occasionally when I wished to do so. I used x 6 binoculars at a distance of about 15 yards, and was able to see clearly and distinctly the large size, the Plover bill, the brownish-gray wings and upper back, the wings with a white line along each, displayed in flight, the rufous rump and upper tail-coverts, and the two black bands across the white breast. This is the second record of the Killdeer in the Labrador Peninsula.

Lagopus lagopus lagopus. WILLOW PTARMIGAN.—On an island at The Bluff Harbour, about eight miles east of Romaine, I was shown on June 8, 1925, a cock Willow Ptarmigan crouched on a hilltop about 100 yards from the only house in this vicinity. I worked around to have the sun at my back and obtained a good view of the bird. The rich chestnut "cape" extending down to his shoulders was very conspicuous. Then he flew to a larger island nearby and, as he alighted, he crowed or cackled. The residents at this place said at the time that a pair of these birds were living about their house and that the cock awakened them by crowing at daybreak (between two and three o'clock) each morning. It appears that at least two pairs of these birds nested on the larger island above referred to, for in July one of the residents at this place found about 25 young Ptarmigans in a group on that island. They were about as large as Robins, but flew well.

During 1926 this species was again present, and probably nested, on the same island at The Bluff Harbour on which it is supposed to have nested in 1925. Four individuals were observed there by me on August 15, 1926, and larger numbers were observed from time to time during the summer by residents of the vicinity.

Archibuteo lagopus sancti-johannis. ROUGH-LEGGED HAWK.—This species nested very commonly in the southeastern part of the Labrador Peninsula in 1925. During an afternoon spent on July 5 in the very rough country north of Bradore Bay, where suitable cliffs, 50 to 100 feet high abound, I saw at least six pairs of these Hawks, and was almost never without at least one or two of them following me about and uttering loud protests. Some of them were dark and some were light, but all seemed very anxious and screeched loudly at me while I remained in their chosen nesting territory. I examined one nest containing four young, no two of which were of the same size. Their eyes were open, they had yellow beaks, and were clad in gray down. Pin-feathers were visible in the wings and tail of three of them and were conspicuous in the two largest.

On July 7 I examined another nest of this species on a low sandstone cliff southeast of Bradore. This contained four very small downy young.

Tyrannus tyrannus. KINGBIRD.—On June 3, 1925, I saw on Big

Birch Island, near Mingan, a Kingbird which flitted along the beach a few yards ahead of me, alighting on stumps and boulders and occasionally snapping up a flying insect. The bird was repeatedly observed with x 6 binoculars at a distance of a few yards, and the characteristic size and markings were easily and clearly noted. The day was cloudy and chilly and the bird was entirely silent.

A Kingbird was seen at close range by me between Natashquan village and the mouth of the Natashquan River on June 9, 1926. It was observed through x 6 binoculars as it perched on the top of an alder bush, and was easily identified. It was heard twice to utter its harsh cry.

Perisoreus canadensis subsp. CANADA JAY.—These birds appeared on the coast in wandering flocks about the end of August, 1925. On August 29 I saw 37 in one flock in woods near Kegashka and on September 4 I saw 18 in one flock in the midst of the village of Havre St. Pierre (formerly Esquimaux Point). Local hunters claimed that this indicated a marked decrease of the hare population in the interior of the peninsula.

Quiscalus quiscula aeneus. BRONZED GRACKLE.—At Seven Islands three were seen on May 8 and one on May 10, 1925.

On June 11, 1926, I clearly saw and identified, with the aid of x 6 binoculars, Bronzed Grackle that was walking about on the ground near the one house at The Bluff Harbour. Mrs. Dan Stubbett, who lives in that house, told me that three such birds had been in that vicinity "all the spring." This is the easternmost record of the Bronzed Grackle on this coast.

Carpodacus purpureus purpureus. PURPLE FINCH.—A beautiful rosy male was seen at Clarke City pier when I arrived there on May 4, 1925. From that time until June 1 the species was recorded on thirteen different dates, most of these observations being made at Seven Islands, but some at Mingan and at Betchewun. Not more than one individual was recorded in any one day, except that three were observed at Mingan on May 23. From these and previous observations it may be concluded that the Purple Finch is of uncommon but regular occurrence on the southern shore of the Labrador Peninsula as far east as Betchewun. One individual was observed at Natashquan on June 9, 1926.

Calcarius lapponicus lapponicus. LAPLAND LONG-SPUR.—This species was recorded in 1925 as follows: Seven Islands, May 5 (1) and May 7 (1); Betchewun, May 18 (2); Havre St. Pierre, May 20 (2); Long Point, May 21 (2); Seven Islands, May 26 (2). These were presumably migrants, for there is no evidence of the breeding of this species in this region.

Spizella passerina passerina. CHIPPING SPARROW.—This species is was observed at Seven Islands from May 27 to June 1, 1925, after which latter date I was no longer present there. One individual was seen each day until June 1, when three were observed.

Melospiza melodia melodia. SONG SPARROW.—On June 14, 1926, I clearly observed a Song Sparrow at short range for some time with x 6

binoculars and also heard it sing several times, in a small bushy area near the United Church of Canada building at Harrington Harbour. This species was also observed on June 8 and 9, July 12, and September 12 at Natashquan, which is one of its regular stations on this coast.

***Seiurus aurocapillus*.** OVENBIRD.—A silent Ovenbird was seen very plainly through x 6 binoculars by me, at a distance of about 20 feet, as it walked about on the forest floor on Ste. Genevieve Island on June 4, 1926. Ste. Genevieve Island is the abrupt eastern termination of the Mingan Islands limestone, with its comparatively dense forest growth, and is probably the eastern limit of the range of the Oven-bird in this region, as no record of this species beyond this point is known. It is interesting to observe that, in the comparatively late spring of 1926, the Oven-bird had reached by June 4 the probable limit of its range in this part of North America.

***Setophaga ruticilla*.** REDSTART.—Near the United Church of Canada building at Harrington Harbour I saw a Redstart in shrubbery on the morning of June 14, 1925. It was singing frequently. I saw it clearly at close range, and, as the leaves on the bushes were not yet spread, I had no difficulty in noting the details of its plumage, which was that of a male of the previous year. This is the easternmost point at which this species has been recorded on the southern coast of the Labrador Peninsula, the nearest record being at Natashquan, more than one hundred miles away.

***Certhia familiaris americana*.** BROWN CREEPER.—One was seen in woods near Clarke City pier on May 4, 1925 and one in a group of small trees in the center of Seven Islands village on May 7. Both of these birds were observed with great clearness and their characteristic size, shape, and coloration were noted. Both of them were engaged in climbing the trunks of trees in search of food in characteristic Creeper fashion.

I have been unable to find any previous record of this species in the Labrador Peninsula.

***Penthestes atricapillus atricapillus*.** CHICKADEE.—As I sat in front of the Post Office at Seven Islands on May 14, 1925, waiting for the mail to be sorted, a solitary Black-capped Chickadee alighted on a fence in the open a few yards away from me. It remained there for several minutes, uttering frequently both the "chick-a-dee" note of its species and the clear "phee-bee" whistle, while I watched it through x 6 binoculars, for this was my first meeting with this species in the Labrador Peninsula, where however, others have recorded it.

Near the south end of Seven Islands village on May 31 I twice heard the brisk "chick-a-dee" note of the Black-capped Chickadee, but this time I failed to see the bird.

***Regulus satrapa satrapa*.** GOLDEN-CROWNED KINGLET.—Four of this species were observed as a scattered flock in woods near Clarke City pier on May 4, 1925.

Canadian National Parks
Ottawa, Canada

SIX NEW SUBSPECIES OF BIRDS FROM LOWER CALIFORNIA.¹

BY JOSEPH GRINNELL

FURTHER systematic studies upon collections of birds from Lower California, Mexico, have made it seemingly expedient to name the following six new races. The types of three of these have been selected from specimens in the remarkably complete Brewster collection from the Cape district, in the Museum of Comparative Zoology, Cambridge.

***Colaptes cafer martirensis*, new subspecies.**

SAN PEDRO MARTIR RED-SHAFTED FLICKER.

Type and type locality: male adult; no. 46253, Mus. Vert. Zool.; La Grulla, 7200 feet altitude, Sierra San Pedro Martir, Lower California; October 8, 1925; collected by Chester C. Lamb, original no. 4996.

Diagnosis.—Similar in general characters to *Colaptes cafer collaris* Vigors (topotypes from Monterey, California), but averaging slightly smaller, bill more attenuated (especially more compressed in terminal half), and tone of ground color on head and on upper and lower surfaces in fresh plumage much more gray (rather than brown or vinaceous).

Measurements.—Average of 4 male *martirensis*: wing 157 mm., tail 101, culmen 37.0; of 10 male *collaris* from west-central California: wing 160, tail 109, culmen 36.5. See also table of measurements given by Ridgway (Birds N. and Mid. Amer., pt. VI, 1914, p. 31) which includes dimensions of 2 males from "northern Lower California" in comparison with 10 males of *collaris* from upper California.

Range.—Sierra San Pedro Martir (San José, 2500 feet, near La Grulla at 7200 feet, and near Vallecitos at 7500 feet) and Sierra Juarez (Laguna Hanson, 5200 feet). Eleven specimens examined (4 in Thayer coll., 7 in Mus. Vert. Zool.).

Remarks.—The relative depth and clearness of the gray on throat and sides of head and neck in *martirensis* is a nearly constant character, as is also the deep fuscous (of Ridgway, Color Standards and Color Nomenclature, 1912, pl. XLVI) tone of the back and of the top of the head, in fresh, new plumage; on the sides of the body, and on the chest surrounding the big black bar, there is little hint

¹Contribution from the Museum of Vertebrate Zoology, University of California.

of the bright vinaceous tinting that characterizes *collaris* from throughout upper California. Weathering of the plumage toward spring tends to rob *martirensis* of its most characteristic color tones, especially on the top of the head which then becomes warmer brown, but not, however, to the degree of brightness seen in *rufipileus*. The latter is even browner than *collaris*.

***Sayornis nigricans salictaria*, new subspecies.**

SAN QUINTIN BLACK PHOEBE.

Type and type locality: male, fully adult (not bird-of-the-year, as shown by condition of skull); no. 46262, Mus. Vert. Zool.; San José, 2500 feet altitude, lat. 31°, Lower California; October 23, 1925; collected by J. Grinnell, original no. 6596.

Diagnosis.—Proportions nearly as in *Sayornis nigricans semiatra* (Vigors), of upper California, but size slightly less, and general tone of color of dark parts blacker, more slaty, less brown. Color of dorsum close to "dusky neutral gray" of Ridgway, 1912, pl. LIII. This marked slatiness of color tone is apparent not only on the forward lower surface, head and back, but also pertains to the remiges and rectrices, especially their concealed portions in closed wing and tail. This is the *blackest* of the races of the Black Phoebe.

Measurements.—Of type, adult male: wing 90.0 mm., tail 80.4, culmen 13.5, width of bill at nostrils 6.0. See below.

Range.—The "San Quintin district" of northern Lower California, where largely restricted associationally to willows, which plants, of course, as a rule in an arid country mark the near vicinity of water or at least the presence of damp ground-surface. Specimens examined only from the type locality, from San Ramon near the mouth of the Santo Domingo River, and from Rancho Ojos Negros (lat. 31° 50'); but the species seen at several other collecting stations to as high in the Sierra San Pedro Martir as near La Grulla, 7200 feet altitude.

Remarks.—The Black Phoebe was recorded by A. W. Anthony from within the range of the present-described race under the name *Sayornis nigrescens* in two places (Zoe, IV, 1893, p. 238; Auk, XII, 1895, p. 140). The word "nigrescens" is sufficiently different in spelling from "nigricans" to permit its use for two forms in the same genus; and at first I supposed that it would have to be used for the present new race because it was coupled with a vernacular name, "Black Phoebe," that might be interpreted as a virtual description. However, I have talked about this case with Doctors C. W. Richmond and H. C. Oberholser, and these experts in such matters are in emphatic agreement that Anthony's *Sayornis*

nigrescens is a nomen nudum. It was, of course, the result purely of a lapsus calami.

It is the present writer's belief that the Black Phoebes of the Pacific district of the United States comprise a recognizable subspecies, *Sayornis nigricans semiatra* (Vigors), differing from those of central and southern Mexico, which are *Sayornis nigricans nigricans* (Swainson). In other words, I agree with E. W. Nelson (Auk, XVII, April, 1900, p. 129) who, by the way, fixes the type locality of *semiatra* as Monterey. Ridgway (Birds N. and Mid. Amer., pt. IV, 1907, p. 598, footnote) was also inclined to follow Nelson, and doubtless would have recognized *semiatra* if it hadn't been for Brewster's adverse comments (Bull. Mus. Comp. Zool., XLI, 1902, p. 119).

***Sayornis nigricans brunnescens*, new subspecies**

SAN LUCAS BLACK PHOEBE

Type and type locality: male adult; no. 16739, coll. Wm. Brewster in Mus. Comp. Zool.; San José del Cabo, Lower California; October 11, 1887; collected by M. A. Frazar.

Diagnosis.—As compared with *Sayornis nigricans semiatra* (Vigors), of upper California, similar but browner in general tone of all dark areas, bill broader, and wing slightly and tail decidedly shorter. Color of dorsum close to "fuscous" of Ridgway, 1912, pl. XLVI; in *semiatra*, dorsum close to "chaetura drab" of same plate.

Measurements.—Average of 7 males of *brunnescens*: wing 90.4 mm., tail 78.3, culmen 13.8, width of bill at nostrils 6.4; of 10 males of *semiatra* from west-central and southern California: wing 92.8, tail 81.9, culmen 13.6, width of bill at nostrils 6.1. See also table of dimensions in Ridgway (Birds N. and Mid. Amer., pt. IV, 1907, p. 598).

Range.—Associationally appropriate parts of the Cape San Lucas district of Lower California. Specimens examined from San José del Cabo, Santiago, and Triunfo. Possibly occurs north as far as Santana, latitude about 29° (see Thayer and Bangs, Condor, IX, 1907, p. 137).

Remarks.—Brewster (Bull. Mus. Comp. Zool., XLI, 1902, p. 119) evidently saw most of the differences appertaining to his Cape series. But the one character which had been brought forward by a previous writer for a proposed west-American race, namely, dusky streaking on the lower tail coverts, proved so unstable that Brewster concluded that none of the characters he observed was sufficiently good to warrant him in naming the race. He uses the phrase "comparatively faded, brownish coloring" in discussing

his Cape birds, implying, I think, that their brown tone might be due to adventitious bleaching. But this is certainly not the case, for a considerable number of October and November examples, thus in new autumn plumage, show the character to be an innate one. In this connection it should go without saying that in one-molt birds like *Sayornis* only early fall plumages should be used for the determination of finely manifested color characters.

***Icterus cucullatus trochiloides*, new subspecies.**

SAN LUCAS HOODED ORIOLE.

Type and type locality: male adult; no. 16491, coll. Wm. Brewster in Mus. Comp. Zool.; Triunfo, about lat. 23° 45', Lower California; June 24, 1887; collected by M. A. Frazar.

Diagnosis.—Similar in general size to *Icterus cucullatus nelsoni* Ridgway, of Arizona and southern California, but bill in both sexes longer, more attenuated in both dorsal and lateral views, and more decurved toward tip; color tone of males in summer on bright parts of plumage averaging duller, more yellow, less orange.

Measurements.—Average of 8 adult males of *trochiloides*: wing 89.3 mm., tail 88.3, culmen 21.7; of 10 males of *nelsoni* from Arizona and southern California: wing 87.6, tail 86.8, culmen 19.1.

Range.—The Cape San Lucas district of Lower California. Specimens examined from many localities from San José del Cabo north to La Paz.

Remarks.—Despite the belief of Frazar, reported by Brewster (Bull. Mus. Comp. Zool., XLI, 1902, p. 132), to the effect that the Hooded Orioles for the most part leave the peninsula in winter, I think that this race is altogether resident in the Cape district. I have been unable to find a single skin in collections from the mainland of Mexico that shows the characters of *trochiloides*. Also among the total of 75 Cape birds examined I have found no example referable unequivocally to *nelsoni*. Apparently the Hooded Orioles of Arizona, of southern California, and of northern Lower California (whence breeding birds are at hand south to both bases of the Sierra San Pedro Martir), all typical *nelsoni*, do not traverse the peninsula of Lower California in migration, but go to winter quarters southeastward into the mainland of Mexico.

The character of bill in *trochiloides* is so outstanding when once looked for, and so constant, that it seems strange that Brewster should have overlooked it, or at least minimized it as not worth mentioning, when at the same time he gives a most minute de-

scription of the various plumages. But it must be kept in mind that Brewster, by the systematic standards of the present day, was notably conservative in the matter of the naming of geographic races. Many a one that he did see, and commented upon, he let go by unnamed.

***Amphispiza bilineata bangsi*, new subspecies.**

SAN LUCAS BLACK-THROATED SPARROW.

Type and type locality: male adult; no. 15968, coll. Wm. Brewster in Mus. Comp. Zool.; La Paz, Lower California; January 11, 1888; collected by M. A. Frazar.

Diagnosis.—Similar to *Amphispiza bilineata deserticola* Ridgway, of Sonora, Arizona, Nevada, southeastern California, and northern Lower California, but wing and tail shorter, bill averaging slightly larger, and color tone of upper surface slightly paler.

Measurements.—Average of 7 males of *bangsi*: wing 63.6 mm., tail 59.1, culmen 10.8, depth of bill at base 6.3; of 10 males of *deserticola* from southeastern California: wing 65.5, tail 62.5, culmen 10.4, depth of bill at base 6.1.

Range.—The Cape San Lucas district of Lower California. Specimens examined from San José del Cabo, Triunfo, La Paz, and Carmen Island, the latter (latitude 26°) being the northernmost point whence a specimen unequivocally of this subspecies is at hand.

Remarks.—The chief characters of this subspecies are in evidence in the table of measurements given by Ridgway (Birds N. and Mid. Amer., pt. I, 1901, p. 265). Ridgway plainly suspected the presence of a recognizable form in the Cape district; and the many birds from different collections now available show this to be a well-marked subspecies with a definite range which coincides with the ranges of many of the other plastic birds of the same general geographical occurrence.

In choosing designation for this new fringillid, I have sought to perpetuate in nomenclature the name of a man already identified importantly with the systematic ornithology of Lower California. Mr. Outram Bangs is now Curator of Birds at the "Agassiz Museum," and includes under his charge the magnificent Brewster collection of Cape San Lucas district birds. He also has been associated with Mr. John E. Thayer in publishing reports upon the latter's exhaustive representation of birds from many localities in the Lower Californian peninsula and on the adjacent islands. To

Mr. Bangs I am indebted personally, furthermore, for freedom of use, during early October, 1926, of all the collections under his curatorship and for waiving all rights in my favor, of publishing upon anything I might find novel in those collections.

***Thryomanes bewickii carbonarius*, new subspecies.**

SOOTY BEWICK WREN.

Type and type locality: female, adult (as determined from skull); no. 46449, Mus. Vert. Zool.; San José, 2500 feet altitude, lat. 31°, Lower California; October 17, 1925; collected by J. Grinnell, original no. 6537.

Diagnosis.—Similar to *Thryomanes bewickii charienturus* Oberholser (from western San Diego County, California), but bill slightly smaller, and coloration grayer, more slaty (rather than brown), in many respects, as follows: bill, tarsus, toes and claws blackish, with no tinge of light brown; sides of neck, sides of body, and flanks clearer gray; top of head and whole dorsum darker, less warmly, brown; dark portions of webs of all flight feathers darker, more slaty.

Measurements.—Averages, of 3 males: wing 53.5 mm., tail 53.8, culmen 13.5, bill from nostril 11.1; of 9 females: wing 51.2, tail 51.0, culmen 13.1, bill from nostril 10.6. See table of Oberholser (Proc. U. S. Nat. Mus., XXI, 1898, p. 450).

Range.—The San Quintin subfaunal district of northwestern Lower California. Life-zone characteristics: Upper Sonoran. Specimens examined, 13, from: San Ramon (mouth of Santo Domingo River), Colnett, San Telmo (600 feet altitude), San José (2500 feet), El Cajon Cañon (east base of Sierra San Pedro Martir, 3200 feet).

Remarks.—This new form is quite as different from *Thryomanes bewickii cerroensis* (Anthony) of the Vizcaino Desert district of Lower California including Cedros Island, as it is from *T. b. charienturus*. This is especially true of color, for both the latter forms are prone to brown rather than to blackish or slaty; *cerroensis* is a little the paler. In addition to much darker color, *carbonarius* shows longer bill, longer tail and slightly longer wing than in *cerroensis*. As to the status and range of the latter my conclusions after examining the Carnegie Museum, Brewster and Thayer collections, accord with the findings of Oberholser (Wilson Bull., XXXII, 1920, p. 21).

Berkeley, California, November 17, 1926.

THE FORTY-FOURTH STATED MEETING OF THE
AMERICAN ORNITHOLOGISTS' UNION.

BY T. S. PALMER.

FOR the first time in its history the American Ornithologists' Union met outside the United States and the forty-fourth stated meeting in Ottawa, Canada, in 1926, was a decided departure in several respects from any of its predecessors. Through the invitation extended by the Minister of Mines and Interior the meeting was made a semi-official affair and numerous courtesies were extended to visiting members by the Canadian Government. Special arrangements were made through the Immigration Department to facilitate crossing the border, the Museum where the meetings were held was made a temporary bonded warehouse thus permitting receipt and reshipment of exhibit material with a minimum of tariff restriction, and the general session was opened by an address of welcome by the Minister of Mines and Interior who also held a public reception for the members and attended the annual dinner.

The fortunate circumstance of the early date of the meeting made it possible for members to secure reduced summer transportation rates and a special car was arranged for the convenience of the party from Washington, Philadelphia and New York. The public sessions were held in the Victoria Memorial Museum and the business sessions at the Chateau Laurier, the most elegant headquarters ever provided for the Union. The meeting filled a full week, October 11-17 inclusive, the first day being given up to business and three days each to public sessions and excursions. Special exhibits installed in the Museum for the occasion were the most extensive ever arranged for any of the annual meetings.

Business Sessions.—The business sessions on Monday were held in the banquet room of the Chateau Laurier and included two sessions of the Council at 10 A. M. and 2 P. M., and a meeting of the Fellows and Members at 8 P. M.

At the evening meeting 21 Fellows and 18 Members were present. Following the roll call and reading and approval of the minutes of the previous meeting the report of the Secretary was presented showing a total membership of 1815. The report of the Treasurer showed total receipts of \$8,213.01 and disbursements of \$8,042.52 leaving a balance of \$170.49 on hand. The disbursements included \$4,882.47 for publication of 'The Auk,' \$1,070.49 transferred to permanent funds, and \$2,089.51 for miscellaneous expenses. The President reported on behalf of the Investment Trustees that the invested funds of the Union amounted to \$28,553.38, including \$7,250 in the Brewster Memorial Fund.

The elections resulted in the choice of the following officers for 1927: President, Alexander Wetmore; vice-presidents, Joseph Grinnell and J. H. Fleming; secretary, T. S. Palmer; treasurer, W. L. McAtee; Members of the Council: A. C. Bent, Ruthven Deane, E. H. Forbush, H. C. Oberholser, W. H. Osgood, C. W. Richmond and T. S. Roberts. On recommendation of the Council 9 Corresponding Fellows and 154 Associates were elected. Five Members were also elected from the list of Associates.

The general business transacted included authorizations for continuing work on the 'Ten Year Index of The Auk,' the 'Check List of North American Birds' and for assisting in the publication of the 'Zoological Record.' The plans of the committee appointed to raise a memorial fund for Robert Ridgway were approved and active work will be started in the spring. An amendment to the By-laws extending the privileges of Associate membership to residents of any country was formally proposed and will come up for final action at the next meeting.

Resolutions were adopted extending the thanks of the Union to the Minister and Deputy Minister of Mines and Interior, to the officials of the Victoria Memorial Museum, to the officers of the Canadian National Parks, and of the Ottawa Field Naturalists' Club for courtesies extended during the meeting. The Union also went on record as opposed to the general destruction of birds of prey by adopting the following resolution:

"RESOLVED, That the American Ornithologists' Union deploras the present tendency to wantonly destroy birds of prey as more likely to result in ultimate economic loss than in gain; and also



GREAT AUK AND A. O. U. PUBLICATIONS—"THE AUK," "THE CODE" AND
"THE CHECK-LIST," MODELED IN HEROIC SIZE BY P. A. TAVERNER
FOR THE OTTAWA MEETING.



deplores the use of the word 'vermin' for these birds as tending to produce an unwarranted prejudice."

Public Sessions.—The presentation of scientific papers occupied the three days, October 12, 13 and 14, from 9:30 A. M. to 5:30 P. M. with intermissions of an hour and a half each day for luncheon. The regular sessions were held in the auditorium of the Museum and technical sessions on Wednesday and Thursday mornings in Room 112 in the west wing of the Museum. On entering the Museum on Tuesday morning the members found on the landing of the main stairway, near the registration desk, a model of a Great Auk of heroic size, resting on three volumes of the Union, 'The Auk,' 'The Code,' and 'The Check-List.' (Plate IV.) Each member on registering was presented with a copy of Taverner's sumptuous work on the 'Birds of Western Canada,' provided by the courtesy of the Canadian Government as a souvenir of the occasion. The general sessions were opened by addresses of welcome by Hon. Charles Stewart, Minister of Mines and Interior and Mr. C. L. Patch, first vice president of the Ottawa Field Naturalists' Club. A brief response on behalf of the Union was made by the President, Dr. Alexander Wetmore.

One of the leading papers was a review of 'Canadian Field Ornithology from 1750 to 1900,' by E. A. Preble, which was supplemented by one of the special exhibits of the more important publications on Canadian birds illustrated by portraits of the authors, the latter loaned from the unique collection of Ruthven Deane. Among the outstanding papers on the program were reports of field work presented by several members who had recently returned from distant regions. J. Dewey Soper had spent two winters in Baffin Land and gave a brief account of ornithological work on Baffin Island. W. E. Clyde Todd had also just returned from the north and presented a brief summary of his work along the east coast of Hudson Bay and in Hudson Strait in the northern part of New Quebec. George Finlay Simmons gave an illustrated account of the South Atlantic Expedition of the Cleveland Museum of Natural History, and Dr. Frank M. Chapman described an ornithological trip to Venezuela, illustrated by an interesting series of lantern slides. Four papers by members of the Baldwin Bird Research Laboratory at Cleveland

brought out clearly the variety of work now being prosecuted at this recently established laboratory. In illustration of one of these papers, on 'The House Wren on and off Duty,' by S. C. Kendeigh, was shown a ribbon seventy feet in length recording the activities of the House Wren during the nesting period. By an ingenious installation of an electrical device in the nest box, an automatic record was obtained of every movement of the sitting bird during the day and night and the restlessness of the Wren even at night was a revelation to most of the members.

Fifteen papers were presented before the technical sessions and several of them aroused considerable discussion, especially Swarth's 'Status of the Harlan Hawk' and Murphy's 'Adaptation among the Tubinares.' Other papers of special interest were Eaton's 'Fluctuations in the Abundance of Various Birds,' Stone's 'Comments on Recent Check Lists of Birds' and Wetmore's 'Present Status of the Fossil Bird List of North America.'

The moving pictures covered a wide diversity of subjects and, including those shown at the conversazione, numbered more than twenty reels. The most remarkable were Gromme's unique views of Loons taken in Wisconsin and the scenes in the National Parks presented through the courtesy of the Canadian National Parks Service. Lewis' pictures illustrated some of the economic phases of Eider Duck conservation, while Cordier's close ups of the Water Ouzel revived the discussion regarding the nictitating membrane of this bird.

Exhibits.—Several very instructive and interesting exhibits of paintings, photographs and publications were installed in the halls of the Museum. The most important of these were the exhibits of bird paintings. Since the first formal exhibit at the Washington meeting in 1920 similar exhibits have been held in 1922, 1924, 1925 and at the annual meeting of the Cooper Ornithological Club in March, 1926, so that this was practically the sixth formal exhibit. In addition to the series of oil paintings, water colors, etchings and photographs should be mentioned the historical collection loaned by the E. S. Wood Library of Ornithology of McGill University, a Joseph Wolf collection of 16 water colors loaned by Dame Alice Godman, a collection of Ridgwayana, originally installed at the Cooper Club meeting in Los Angeles, including

a series of original drawings by Robert Ridgway showing his development as an artist from boyhood days to recent times, and two collections of water colors by Major Allan Brooks, one prepared for Taverner's 'Birds of Western Canada' and the other a special collection of 32 Canadian bird pictures assembled by Wallace Havelock Robb. The catalogue of the exhibit of bird paintings and photographs included 444 entries representing the work of about 50 artists, including 3 unknown, and 13 photographs in addition to the 37 artists in the following list:

| | |
|--------------------------------------|-----------------------------------|
| William J. Belcher (Fiji) | Claude Edward Johnson |
| Richard Evett Bishop | John Gerrard Keulemans, 1842-1912 |
| Allan Cyril Brooks | Bruno Liljefors (Sweden) |
| Charles Livingston Bull | George Edward Lodge |
| F. Cheverlange (Fiji) | A. Miles |
| Adrian Collaert (ca. 1580) | John Guille Millais |
| John Templeman Coolidge, Jr. | R. C. Patterson |
| Henry Carey Denslow | Roger Tory Peterson |
| Edward von Siebold Dingle | Karl Plath |
| Louis Agassiz Fuertes | Earl Lincoln Poole |
| William Giles | W. E. Powell |
| Henrik Gronvold | John Livzey Ridgway |
| Lady Elizabeth Gwillim (fl. 1801-06) | Robert Ridgway |
| Charles Hayes (fl. 1808-16) | Edmund Joseph Sawyer |
| William Hayes, (ca. 1729-1799) | Will Simmons |
| Frank Charles Hennessey | George Miksch Sutton |
| Robert Bruce Horsfall | Albert E. Ward (Fiji) |
| Lynn Bogue Hunt | Joseph Wolf, 1820-1899 |
| Francis Lee Jaques | |

Series of photographs, some of them colored, were shown by the following contributors:

| | |
|-----------------------|------------------------|
| Arthur Augustus Allen | Wright McEwan Pierce |
| Ralph Emerson De Lury | Harold Herbert Pittman |
| John A. Gillespie | Napier Smith |
| Warwick James Low | Percy A. Taverner |
| Dan McCowan | Lewis McIver Terrill |
| William Henry Mousley | Edward Royal Warren |
| James Alexander Munro | |

Social Features.—The social gatherings were more varied than usual and included, in addition to the daily luncheon and the annual dinner, a *conversazione* on Tuesday evening, informal re-

ceptions at the homes of several of the resident members on Thursday evening and two field excursions. At the conversazione, which was opened by a reception by the Minister of Mines and officials of the Museum, Harrison F. Lewis gave a demonstration of the method of cleaning Eider down for market, moving pictures of the Canadian National Parks were shown, and music and refreshments closed the program of the evening.

The annual dinner on Wednesday evening at the Chateau Laurier was attended by about 180 members and guests. At each plate was a miniature model of a Great Auk prepared by P. A. Taverner and his assistants. Following the dinner a medal was presented by Wallace Havelock Robb to Major Allan Brooks in recognition of his work in bird painting, the usual edition of 'The Auklet' was distributed, and a special program arranged by the Local Committee was presented. On Friday the members were taken by motor-bus to Kingsmere, P. Q., the nearest part of the Laurentian Hills. From this point a walk to the top of Kings Mountain nearby, altitude 1,050 feet, afforded a view of the surrounding region and an opportunity of seeing the woods in their gorgeous autumn tints. The final event was a two day excursion which started Saturday morning for Blue Sea Lakes, about 80 miles north of Ottawa, on the Gatineau Division of the Canadian Pacific Railroad. The thirty-nine members who joined this excursion enjoyed a still better opportunity of observing the autumn tints of the Canadian woods in the highlands of Quebec.

As a record of the meeting two group photographs were taken, one of the entire membership and the other of the 48 Canadian members.

Invitations to hold the next annual meeting were received from various places but by unanimous vote the Union decided to accept the invitation from Washington, D. C., and the forty-fifth annual meeting will be held at the U. S. National Museum, November 14-17, 1927.

THE PROGRAM

(Papers are arranged in the order in which they were presented at the meeting. Those marked with an asterisk (*) were illustrated by lantern slides.)

TUESDAY MORNING

Address of Welcome. HON. CHAS. STEWART, Minister of Mines.

Address of Welcome on behalf of the Ottawa Field-Naturalists' Club.

C. L. PATCH, First Vice-President.

Response on behalf of the American Ornithologists' Union. ALEXANDER WETMORE, President.

Roll Call of Fellows and Members, Report of Business Meeting, Announcement of Result of Elections.

1. Notes on the Courtship of the Lesser Scaup, Everglade Kite, Crow and Boat-tailed and Great-tailed Grackles. CHARLES WENDELL TOWNSEND, Ipswich, Mass. (15 min.)
2. Canadian Field Ornithology, 1750-1900. EDWARD A. PREBLE, Biological Survey, Washington, D. C. (30 min.)
3. Eider-down from the American Eider. HARRISON F. LEWIS, Canadian National Parks, Ottawa. (15 min.)
4. Tree Surgery and the Birds. JOSEPH GRINNELL, Museum of Vertebrate Zoology, Berkeley, Calif. (10 min.)
5. The Decorations of the Bowers of Australian Bower-birds. W. B. ALEXANDER, R. A. O. U., Editor of 'The Emu.' (15 min.)
6. The International Ornithological Congress at Copenhagen. ROBERT CUSHMAN MURPHY, American Museum of Natural History, New York. (30 min.)

TUESDAY AFTERNOON

7. A Visit to the Queen Charlotte Islands, B. C. C. J. YOUNG, Vancouver, B. C. (30 min.)
Papers from the Baldwin Bird Research Laboratory (Nos. 8-11).
8. *Winter Shelter for Game Birds. S. PRENTISS BALDWIN, Cleveland, O. (10 min.)
9. Operating a Bird Research Laboratory. S. PRENTISS BALDWIN, Cleveland, O. (10 min.)
10. Nestling Plumage of the House Wren. RUDYERD BOULTON, JR., Pittsburgh, Pa. (20 min.)
11. *The House Wren on and off Duty. S. CHARLES KENDEIGH, Oberlin, O. (20 min.)
12. Ornithological Work in Baffin Island. J. DEWEY SOPER, Victoria Memorial Museum, Ottawa. (10 min.)
13. *The Gulls and Petrels of Great Duck Island, Maine. ALFRED O. GROSS, Bowdoin College, Brunswick, Me. (25 min.)

WEDNESDAY MORNING—GENERAL SESSION

14. Misleading International Bird Names. WALLACE HAVELOCK ROBB, Belleville, Ont. (10 min.)

15. *Bird Songs enjoyed by other Species.
*Making a Swallow Bank and other Nesting Places. ERNEST THOMPSON SETON, Greenwich, Conn. (10 min.)
16. The Sparrow Hawks of Colorado. W. H. BERGTOLD, Denver, Colo. (Read by title.)
17. Results of Bird Banding in the Inland District. W. I. LYON, President Inland Bird Banding Association, Waukegan, Ill. (20 min.)
18. Habits of the Limpkin and First Authentic Nesting of the Black Rail in Florida. DONALD J. NICHOLSON, Orlando, Florida. (Presented by J. F. Street.) (25 min.)
19. A Vital Factor in the Existence of Southwestern Game Birds. JOSEPH GRINNELL, Museum of Vertebrate Zoology, Berkeley, Calif. (10 min.)
20. Tree Sparrow Returns and Migration. WENDELL P. SMITH, Wells River, Vt. (15 min.)
21. A Further Study of the Home Life of the Northern Parula Warbler. HENRY MOUSLEY, Montreal, P. Q. (25 min.)
22. An Interesting Case of Melanism in the Ruffed Grouse. ARTHUR A. ALLEN, Cornell University, Ithaca, N. Y. (Read by title.)
23. *Nesting of the White-winged Crossbill. NAPIER SMITH, President Quebec Society Protection of Birds, Montreal, P. Q. (20 min.)

WEDNESDAY MORNING—TECHNICAL SESSION

24. Averages are Fundamental in Economic Ornithology. W. L. MCATEE, Biological Survey, Washington, D. C. (15 min.)
25. *Distribution and Variations of *Saltator aurantiirostris*, A Study in the Origin of Zonal Life and Geographic Speciation. FRANK M. CHAPMAN, American Museum of Natural History, New York. (20 min.)
26. Evidence of the Systematic Status of the Harlan Hawk. H. S. SWARTH, Museum of Vertebrate Zoology, Berkeley, Calif. (15 min.)
27. Comments on Recent Check Lists of Birds. WITMER STONE, Academy of Natural Sciences, Philadelphia, Pa. (20 min.)
28. Present Status of the Fossil Bird List of North America. ALEXANDER WETMORE, Assistant Secretary, Smithsonian Institution, Washington, D. C. (15 min.)
29. The Island of San Luis de Maranhao, Brazil, and some of the Birds collected there by Emil Kaempfer. MRS. ELSIE M. B. NAUMBURG, American Museum of Natural History, New York. (15 min.)
30. Distributional Problems in the Bird Life of Yucatan. LUDLOW GRISCOM, American Museum of Natural History, New York. (20 min.)
31. Remarks on the Classification of the Parrots. WALDRON DE WITT MILLER, American Museum of Natural History, New York. (Read by title.)

WEDNESDAY AFTERNOON—MOTION PICTURES AND LANTERN SLIDES

32. Nesting Life of the Loon in Wisconsin—Motion Pictures. OWEN J. GROMME, Public Museum, Milwaukee, Wis. (20 min.)
33. The Ridgway Memorial—A Report of Progress. H. C. OBERHOLSER, Biological Survey, Washington, D. C. (10 min.)
34. *Some Observations on the Water Ouzel—Motion Pictures. A. H. CORDIER, Kansas City, Mo. (30 min.)
35. *An Ornithological Reconnaissance in Venezuela. FRANK M. CHAPMAN, American Museum of Natural History, New York. (40 min.)
36. West Virginia and Florida Birds—Motion Pictures. I. H. JOHNSTON, Charleston, W. Va. (30 min.)
37. *The Blossom South Atlantic Expedition of the Cleveland Museum of Natural History. GEO. FINLAY SIMMONS, Cleveland Museum, Cleveland, O. (45 min.)

THURSDAY MORNING—GENERAL SESSION

38. The Flicker Flight and other Migratory Movements at Cape May, N. J. WITMER STONE, Academy of Natural Sciences, Philadelphia, Pa. (15 min.)
39. Notes on Some of the Common Birds of Northeastern Labrador. E. W. CALVERT, Stirling, Ont. (Presented by L. M. Terrill.) (10 min.)
40. Water Birds on the New Jersey Coast. H. C. OBERHOLSER, Biological Survey, Washington, D. C. (20 min.)
41. Comparison of the Nesting Habits of Wright's and Hammond's Flycatchers. J. HOOPER BOWLES, Tacoma, and F. R. DECKER, Kiona, Wash. (Presented by Edward Arnold.) (15 min.)
42. *The Migration of North American Herring Gulls. F. C. LINCOLN, Biological Survey, Washington, D. C. (20 min.)
43. Nesting of the Golden-crowned Sparrow. H. S. SWARTH, Museum of Vertebrate Zoology, Berkeley, Calif. (Presented by W. L. McAtee.) (15 min.)
44. Conservation Gone Mad. ERNEST THOMPSON SETON, Greenwich, Conn. (15 min.)
45. Banding Redpolls. R. E. DELURY, Ottawa. (10 min.)

THURSDAY MORNING—TECHNICAL SESSION

46. A Study of Adaptation among the Tubinares. ROBERT CUSHMAN MURPHY, American Museum of Natural History, New York. (30 min.)
47. Audubon's Shearwater in the United States. T. S. PALMER, Biological Survey, Washington, D. C. (15 min.)
48. *Avifaunal Exploration in Lower California and what it shows. JOSEPH GRINNELL, Museum of Vertebrate Zoology, Berkeley, Calif. (35 min.)

49. Fluctuations in the Abundance of Various Birds in Eastern North America and the Probable Causes. E. H. EATON, Hobart College, Geneva, N. Y. (20 min.)
50. The Case of the Yellow Warbler. W. E. CLYDE TODD, Carnegie Museum, Pittsburgh, Pa. (5 min.)
51. *Progress in the Ruffed Grouse Investigation. ARTHUR A. ALLEN and ALFRED O. GROSS, Cornell University, Ithaca, N. Y. (Presented by A. O. Gross.) (20 min.)
52. Standard and Adaptive Specialization in relation to Migration and Distribution. JOHN T. NICHOLS, American Museum of Natural History, New York. (20 min.)

THURSDAY AFTERNOON—MOTION PICTURES

53. The 1926 Hudson Bay Expedition. W. E. CLYDE TODD, Carnegie Museum, Pittsburgh, Pa. (10 min.)
54. Ornithological Results of the Mason-Spinden Expedition to Eastern Yucatan and Cozumel Island. LUDLOW GRISCOM, American Museum of Natural History, New York. (45 min.)
55. The Ridgway Memorial. O. M. SCHANTZ, Chicago, Ill. (45 min.)
56. The Sport of Bird Banding. S. PRENTISS BALDWIN, Cleveland, O. (45 min.)
57. Observations and Banding Notes from Tern Island, Chatham, Mass. CHARLES B. FLOYD, Auburndale, Mass. (Presented by Mrs. A. B. Harrington.) (30 min.)

ATTENDANCE

The register showed the presence of 22 Fellows, 1 Corresponding Fellow, 24 Members and 88 Associates or a total of 135 Members. Among the number were one of the original Founders, Charles F. Batchelder, 3 Fellows elected at the first meeting, Ruthven Deane, Dr. Jonathan Dwight and W. E. Saunders, and a Corresponding Fellow from Australia, W. B. Alexander, formerly editor of 'The Emu.' Among the visitors were the Minister and Deputy Minister of Mines and Interior, and the Governor of Greenland.

Among the members who came from a distance were Dr. Joseph Grinnell, Miss M. E. McLellan and H. S. Swarth from California; Dr. A. H. Cordier from Kansas City, Mo.; Ruthven Deane, W. I. Lyon and O. M. Schantz from Illinois; Herbert R. Sass from Charleston, S. C.; and Major Allan Brooks, J. A. Munro and L. E. Taylor from British Columbia; Frank L. Farley and J. Dewey

Soper from Alberta; L. B. Potter from Saskatchewan, and C. L. Broley from Manitoba.

Representatives were present from eighteen States, the District of Columbia and 7 Provinces of Canada, including all the region from the Gulf of St. Lawrence to the Potomac and Ohio Rivers and from the Atlantic Coast to the Mississippi River except New Brunswick, Prince Edward Island, Rhode Island and Delaware. In addition representatives were present from 4 Provinces and 4 States in the west and south: Alberta, British Columbia, Manitoba, Saskatchewan, and California, Missouri, South Carolina and West Virginia. The largest delegations outside of Ontario came from Quebec, Massachusetts, New York, Pennsylvania and the District of Columbia. Although the total attendance was somewhat smaller than that in New York last year it was more generally distributed and represented one more State and 5 more Canadian Provinces than were present at the meeting of 1925.

Fourteen natural history museums were represented by one or more of their members, viz: American, Boston Society of Natural History, California Academy of Sciences, Carnegie, Cleveland, Comparative Zoology, Everhart, National, Philadelphia Academy of Natural Sciences, Princeton, Royal Ontario, University of Michigan, Vertebrate Zoology and Victoria Memorial.

FELLOWS AND MEMBERS PRESENT.

FELLOWS.—C. F. Batchelder, A. C. Bent, A. C. Brooks, F. M. Chapman, Ruthven Deane, Jonathan Dwight, J. H. Fleming, E. H. Forbush, Joseph Grinnell, Ludlow Griscom, W. L. McAtee, R. C. Murphy, H. C. Oberholser, T. S. Palmer, C. W. Richmond, Witmer Stone, W. E. Saunders, H. S. Swarth, P. A. Taverner, W. E. C. Todd, C. W. Townsend, Alexander Wetmore—Total 22.

CORRESPONDING FELLOW.—W. B. Alexander.

MEMBERS.—R. M. Anderson, S. P. Baldwin, Thomas Barbour, Miss M. T. Cooke, M. S. Crosby, E. H. Eaton, J. A. Farley, A. O. Gross, Francis Harper, Wharton Huber, F. H. Kennard, F. C. Lincoln, Hoyes Lloyd, W. I. Lyon, W. H. Mousley, J. A. Munro, Mrs. W. W. Naumburg, J. T. Nichols, T. G. Pearson, E. A. Preble, C. H. Rogers, E. T. Seton, G. F. Simmons, N. A. Wood—Total 24.

ELECTION OF CORRESPONDING FELLOWS, MEMBERS AND ASSOCIATES.

CORRESPONDING FELLOWS—9

Harry Balch Bailey, Newport News, Va.

Prof. Stephen Alfred Forbes, Urbana, Ill.

Dr. Lieven Ferdinand de Beaufort, Amsterdam, Holland

Janusz Domaniewski, Warsaw, Poland.

Dr. Kurt Ehrenreich Floericke, Stuttgart, Germany.

Dr. Ivar Johannes Hortling, Helsingfors, Finland.

Jakob Schenk, Budapest, Hungary

Peter Skovgaard, Skovbo, Denmark

Dr. Johannes Thienemann, Rossitten, Germany.

MEMBERS—5

Miss May Thacher Cooke, Washington, D. C. (Life Member).

Maunsell Schieffelin Crosby, Rhinebeck, N. Y. (Life Member).

Stanley Gordon Jewett, Portland, Oregon.

William Henry Mousley, Montreal, P. Q.

James Alexander Munro, Okanagan, Landing, B. C.

ASSOCIATES—154.

The names of Associates who qualify will appear in the annual Directory of Members in 'The Auk,' for April.

REPORT OF THE SECRETARY.

BY T. S. PALMER.

Membership.—At the close of the year 1926, the membership list shows a total increase of 110 over the number reported last year. The Union, however, in practicing rigid economy failed for the first time in many years to publish the usual list of members in the April number of 'The Auk.' The omission of this list has proved a serious inconvenience and in the absence of the usual careful revision of the rolls in preparation for printing, the total number of members at present is somewhat uncertain. These members are distributed in all of the States and Territories except Hawaii, and also in the Phillipine Islands and in a number of foreign countries and colonies in North America, South America, West Indies, Europe, Asia, Africa, and Australia.

The following tabular statement shows the figures for the present membership in comparison with those of last year and ten years ago:

| | <i>Fellows</i> | <i>Retired Fellows</i> | <i>Hon. Fellows</i> | <i>Corresponding Fellows</i> | <i>Members</i> | <i>Associates</i> | <i>Total</i> |
|------|----------------|----------------------------|-------------------------|----------------------------------|----------------|-------------------|--------------|
| 1916 | 46 | 3 | 11 | 55 | 77 | 638 | 830 |
| 1925 | 48 | 5 | 24 | 88 | 96 | 1444 | 1705 |
| 1926 | 50 | 5 | 23 | 86 | 99 | 1552 | 1815 |

The comparison with 1916 shows substantial increases in all the classes but is somewhat misleading because in that year there had been a rigid revision of the list and many Associates in arrears were dropped with the result that the total membership was smaller than at any time for the preceding ten years. On the other hand in 1926 the list has not undergone as severe pruning as usual and consequently may show a reduction next year. The apparent gain of 110 during the year included the restoration of 1 Associate and the election at the last annual meeting of 2 Corresponding Fellows and 181 Associates, of which 157 qualified. This increase was offset by losses of 17 by death, 37 by resignation, some by failure to qualify and some by delinquency. The losses

by death included those of 1 Honorary Fellow, 4 Corresponding Fellows, 1 Life Associate and 11 Associates. While the losses by resignation are at the maximum for any year during the past decade the losses by death have been exceeded in five years during the same period. In the classes of restricted membership we have no vacancies in the class of Fellows, 2 in that of Honorary Fellows, 14 in that of Corresponding Fellows and 26 in that of Members.

Activities of Members Abroad.—Not since the days of Rheinhold Forster who accompanied Capt. Cook on his voyage around the world have ornithologists been so active as they have this year in circumnavigating the globe. At least four of our members have made the circuit in 1926, or will be on the way at the close of the year. Of our foreign members M. Jean Delacour who went out to Indo-China last year to collect live birds and specimens returned by way of the United States in May and made brief visits to Washington, Philadelphia and New York. An opportunity was thus afforded of entertaining for a few days one of our distinguished foreign members. Mr. W. B. Alexander, editor of the Australian Journal 'The Emu,' who was in America several years ago, returned to England and has honored us with a visit at this meeting thus completing his trip around the globe which has extended over several years. Dr. Casey Wood who spent several months last winter in Ceylon and several months during the summer in Kashmir, India, has now progressed as far as the Philippines on his way around the world and expects to return to America sometime in 1927. Mr. W. W. Grant, who undertook a similar voyage, was heard from early in the spring from a point in the Java Sea, but returned in time to attend this meeting. All of these members have made the trip from west to east, while Dr. Charles W. Townsend plans to reverse this course and leaves in October for the West Coast and the Philippines.

Africa has proved unusually attractive this year. Mr. Herbert Lang has continued his work in South Africa, Mr. James P. Chapin has revisited the Congo region to collect birds in the high mountains, while Messrs. H. B. Conover and J. T. Zimmer of the Field Museum have undertaken an expedition to South Africa. Recently the Field Museum has dispatched an African expedition in charge of Dr. W. H. Osgood, who is accompanied by

Messrs. L. A. Fuertes and A. M. Bailey. This party expects to explore the highlands of Abyssinia, a region largely unknown and one in which very little zoological work has been done since the days of Hemprich and Ehrenberg eighty years ago. On the west coast, Dr. Glover M. Allen has visited Liberia in the interests of the Museum of Comparative Zoology.

Tropical America as usual has been the scene of several collecting expeditions. George K. Cherrie has recently returned from the interior of Brazil, where he traveled for several months with a party from the Field Museum. Ernest G. Holt of the Carnegie Museum has left for Brazil on a business trip but may find opportunity to do some collecting. Dr. Frank M. Chapman made a brief trip into the interior of Venezuela in returning from the Canal Zone, Mr. F. H. Kennard has been in western Panama, and Dr. Thomas Barbour and Dr. Chapman visited Barro Colorado Island in the Canal Zone early in the spring. James Bond accompanied Rodolph M. deSchauensee to the lower Amazon in the Para region where collections were made for the Academy of Natural Sciences of Philadelphia.

In Central America, Harry Malleis is still collecting in Guatemala in the Province of Peten, and A. J. Van Rossem succeeded in making a very interesting collection in Salvador and secured material from some important type localities. He is planning to resume work in the near future in that little known region.

In Mexico, some work has been done by Ludlow Griscom and E. A. Goldman. The former visited eastern Yucatan and Cozumel Island with the Mason-Spinden Archaeological Expedition, while Major Goldman made a trip in February for the purpose of investigating the condition of Ducks and other migratory Waterfowl and the methods of hunting them on some of the lakes on the tableland. During the course of this work he secured much valuable information and incidentally the type of a new Rail which has recently been described by Dr. E. W. Nelson.

After an absence of nearly three years the expedition of the Cleveland Museum of Natural History to the South Atlantic in charge of George Finlay Simmons has returned with extensive collections. In the South Pacific, Rollo H. Beck is still collecting for the American Museum of Natural History. Dr. Hugh M.

Smith is engaged in fisheries work in Siam and has made collections of birds from time to time and N. Gist Gee is at his post in China, while Lacey I. Moffett remains at Kiangku, China where he is directing extensive collecting for the Philadelphia Academy.

Europe as usual has attracted several of the members and it was expected that a strong delegation would attend the Sixth International Ornithological Congress at Copenhagen in May. Unfortunately, at the last moment several members were prevented from making the trip so that the Union was represented only by Dr. Frank M. Chapman, J. H. Fleming, Dr. E. C. Hellmayr, and Dr. and Mrs. Robert Cushman Murphy. After the Congress, Dr. Murphy visited museums in several countries and during the summer Mrs. W. W. Naumburg found an opportunity of continuing her work at several of the foreign museums.

Personnel of the Union.—During the year the Committee on Biography and Bibliography, (through the chairman, assisted by the Treasurer), has published a complete bibliography of the papers of A. K. Fisher, 1876–1926, and has made an effort not only to assist the editor of 'The Auk' in the preparation of biographical sketches of deceased members but to correlate and summarize some of the biographical data which have been collected. The entire list of deceased foreign members has been examined and a number of notices prepared. Brief notices of all except one of the members on this list have been published or prepared, a complete list of the Life Members from the beginning has been made, and certain data tabulated for all classes of members except Associates. This tabulation has brought out some interesting facts both as to age and place of birth.

The ages of the Fellows have varied from 24 to 88. At present the youngest Fellow on the rolls is 34, the oldest 85, and 6 Founders and 6 others elected at the first meeting have held membership in that class for 43 years. Of those now in the list of Fellows 11 have passed three score and ten years, 16 joined the Union before they were of age and 10 attained the grade of Fellow before they were 30 years of age, namely, E. P. Bicknell, F. M. Chapman, and Joseph Grinnell at 24; Witmer Stone at 26; C. F. Batchelder, A. K. Fisher and C. Hart Merriman at 27; and Jonathan Dwight, E. W. Nelson and C. W. Richmond at 28. While the average

time of promotion from Associate to Fellow is about 10 or 12 years, three were advanced in 3 years, one each in 5, 6 and 7, while others have waited 20 to 32 years to reach the highest grade.

Wilson, Audubon and Nuttall were born abroad but took up their residence respectively in the states of Pennsylvania, New York, and Massachusetts. By a curious coincidence all of the 10 or 12 most prominent ornithologists of the last century (except Coues, who was born in New Hampshire) and more than half of the present Fellows of the Union were born in these same states. The other half are scattered among 10 other states but only two of them west of the Mississippi. In the case of Members however, the distribution is somewhat wider as several of the younger men were born in the west, 10 per cent of them in Iowa.

Bequests and Contributions.—Since the last meeting the bequest of \$500 generously left the Union by John H. Sage has been received and invested, and contributions have been made by several members, notably by N. C. Brown and Miss A. R. Sherman. Several others have contributed toward the expense of publishing certain papers in 'The Auk' thereby enabling us to issue larger numbers than would otherwise have been possible.

In this connection it may not be inappropriate to suggest that members, who have enjoyed the benefits of the Union for some years, might assist in assuring these benefits permanently for others, by bequest, or by making provision for the permanent care of their sets of 'The Auk,' if they are no longer using them, in some appropriate institutions. Many public libraries still lack sets of the journal in whole or in part.

Museum Collections.—The Committee on Biography and Bibliography has already secured and published in 'The Auk,' brief accounts of the collections of birds in the museums of Berlin, Buenos Aires and Stockholm, and arrangements are being made for similar reports on other notable collections. American students will thus have ready access to accounts of the more important collections abroad.

The genera of birds of the world (as of Sharpe's 'Hand-List') still unrepresented in American museums has been reduced to about 80 and it is hoped to publish this list during the coming year.

The Journal.—At the beginning of the year another survey was made of the condition of complete sets of 'The Auk' in the hands of public libraries and private individuals. Information was collected regarding the condition of these sets, whether bound or not, and whether they included sets of the 'Bulletin of the Nuttall Ornithological Club.' The returns have brought to light the fact that 10 or 11 additional sets have been completed or nearly completed during the year so that the total number of sets which are either complete or lack from 1 to 6 numbers is now about 240, of which 96 are in public libraries or museums.

Papers of the New York Meeting.—Only a few of the papers presented at the annual meeting in 1925 have thus far appeared in print. Those published in 'The Auk' include the following:

No. 2, Stone's Memorial of John Hall Sage; No. 4, Crosby's Memorial of Eugene Pintard Bicknell; No. 17, Stoner's 'Banding Notes on the Bank Swallow'; No. 20, Lincoln's Banding in Progress and Prospect'; No. 26, Lonnberg's account of 'The Ornithological Collection of the Natural History Museum in Stockholm'; No. 35, Christy's Engraved Portraits of Birds, under the title 'Alexander Lawson's Bird Engraving'; No. 39, Nicholson's 'Nesting Habits of the Everglade Kite'; No. 41, Henderson's 'Nesting of Bonaparte's Gull in Alberta'; and No. 51, Mrs. Naumburg's 'The Bird Fauna of North America in Relation to its Distribution in South America.'

Among the papers published elsewhere are No. 25, Todd's 'Study of Goldfinches,' which has appeared under the title 'A Study of the Neotropical Finches of the Genus *Spinus*,' in the 'Annals of the Carnegie Museum,' XVII, pp. 11-82, June, 1926; and No. 52, Allen's 'Ruffed Grouse Disease,' which has been elaborated by A. A. Allen and A. O. Gross as the 'Ruffed Grouse Investigation, Season of 1925-1926,' in 'American Game,' the Bulletin of the American Game Protective Association, XV, pp. 81-84, 86, Oct., 1926.

Besides these, two contributions presented at the Pittsburgh meeting in 1924, viz: No. 27, Boulton's paper on *Zonotrichia* has appeared in 'The Auk,' July, 1926, pp. 326-332, under the title 'Remarks on the Origin and Distribution of the *Zonotrichiae*,' and No. 51, Bergtold's 'Avian Gonads and Migration' has been published in 'The Condor,' May, 1926, pp. 114-120.

DECEASED MEMBERS, 1925-1926.

- HERMAN SCHALOW,¹ Honorary Fellow, died in his 74th year at Berlin, Germany, Dec. 9, 1925.
- FRANK EVERS BEDDARD,² Corresponding Fellow, aged 67, died at West Hampstead, Eng., July 14, 1925.
- SANFORD BALLARD DOLE,³ Corresponding Fellow, aged 82, died at Honolulu, Hawaii, June 9, 1926.
- MICHAEL JOHN NICOLL,⁴ Corresponding Fellow, aged 45, died at Leeds, Eng., Oct. 31, 1925.
- HARRY KIRKE SWANN,⁵ Corresponding Fellow, of Thorncombe, New Barnet, Eng., aged 55, died Apr. 14, 1926.
- ROBERT BARBOUR, Associate, of Montclair, N. J., died in 1926.
- WILLIAM STURGIS BIGELOW, Associate, aged 76, died at Boston, Mass., Oct. 6, 1926.
- JOHN BURNHAM,⁶ Associate, aged 58, died at San Diego, Calif., Mar. 27, 1926.
- LABAN DENNIS, Associate, of Orange, N. J., died Nov. 18, 1925.
- MISS SARAH CHANDLER EASTMAN, Associate, of Portland, Me., died Jan. 18, 1926.
- JULIUS GARST, Associate, of Worcester, Mass., died Feb. 14, 1926.
- MRS. BAKER HULL, Associate, of Baltimore, Md., died May 31, 1925.
- AUGUSTUS SAYRE KIBBE,⁷ Associate, died at Berkeley, Calif., Aug. 21, 1926.
- SAMUEL HENRY VANDERGRIFF,⁸ Life Associate, aged 60, died at Washington, D. C., Sept. 21, 1926.
- BENJAMIN HARRY WARREN,⁹ Associate, aged 68, died at West Chester, Pa., Oct. 10, 1926.
- FRANK MORLEY WOODRUFF,¹⁰ Associate, aged 49, died at Chicago, Ill., July 21, 1926.
- LEWIS BARTHOLOMEW WOODRUFF, Associate, aged 57, died at Torrington, Conn., Nov. 27, 1925.

¹ For obituary notice, see 'Auk,' XLIII, pp. 412-413.

² " " " " " " " " p. 413

³ " " " " " " " " XLIV, p. 160.

⁴ " " " " " " " " XLIII, pp. 414-415.

⁵ " " " " " " " " pp. 415-416.

⁶ " " " " " " " " XLIII, pp. 578-579.

⁷ " " " " " " " " XLIV, p. 161.

⁸ " " " " " " " " p. 163.

⁹ " " " " " " " " p. 163.

¹⁰ " " " " " " " " XLIII, pp. 577-578.

GENERAL NOTES.

Sabine's Gull in Massachusetts.—On August 21, Mr. John Smith of the Boston Society of Natural History and I were collecting Limicolae along the South River at Marshfield, near Greenbush, Mass. A large company of young and adult Common and Roseate Terns were feeding in the river and we sat for a while on the bank to watch them. With them, and closely imitating their method of feeding was a bird which instantly attracted our attention. Its black head and white-flecked, black primaries made it a conspicuous spot in the Tern company. Thinking it was a Bonaparte's Gull in full plumage we collected it. Closer observation immediately showed the bird to be a fine specimen of Sabine's Gull in almost full plumage. The head only indicated the beginning of molt, a few white and grey feathers being mixed in with the darker plumage. The black collar around the neck was perfect as was the rest of the plumage. Upon skinning the Gull we found it to be an adult male. The larger proportion of the stomach contents was sand, with the vertebrae of several small fish, three very small clam shells, and a little fatty substance on which the Gull was feeding when shot. We have but very few records of this species in Massachusetts, and most of these are of birds in winter plumage.—ALLEN H. WOOD, JR., *Boston, Massachusetts.*

Caspian Tern at Stone Harbor, N. J.—On August 29, 1926, while examining a large flock of Terns and Gulls resting on the sand below Stone Harbor, N. J., we noticed three large red-billed birds among them. On closer examination we found them to be Caspian Terns—two in adult and one in immature plumage. We identified the birds to our entire satisfaction, flushing them from the beach twice. On these occasions, their comparatively shallow-forked tails were plainly seen as they flew about overhead. One of the adults uttered a harsh low-pitched k-r-r-r-r which cleared up any doubt we had as to the bird's identity. It is interesting to note that Mr. Clifford Marburger and Professor Herbert H. Beck saw a large Tern which they suspected of being this species at Brigantine, N. J., August 18, 1926.—WILLIAM YODER, *Philadelphia, Pa.*—JULIAN K. POTTER, *Collingswood, N. J.*

Noddy Tern (*Anous stolidus*) at Daytona Beach, Florida.—On September 18, 1926, the day of the south Florida hurricane, a Noddy (*Anous stolidus*) was found in a semi-exhausted condition, resting beneath the ocean pier at the foot of Main Street, Daytona Beach. The bird was still living when brought to me, on the 20th, for identification.

On the morning of the 18th, I was out on the beach looking for the unusual water birds that the fall gales occasionally bring our way. In addition to the first Sooty Tern that I have ever seen here, and the first

Frigate Birds since 1910, my attention was attracted to what I at first sight took to be a Fish Crow hovering above the combers. But as the bird was swept towards and past me, I realized that it was no Crow. In the course of ten minutes I saw four more of the same species. They would occasionally skim close to the waves, stretching the feet towards the water and almost alighting but keeping the wings outspread, never behaving after the manner of the fork-tailed Terns.

I tentatively set the new birds down as Sooty Shearwaters, and upon looking them up in the books, was confirmed in my belief. However upon receiving the Noddy on the 20th, I at once saw the striking similarity in general appearance between the Noddy and the Sooty Shearwater, and I have since read (Bartsch's 'Bird Rookeries of the Tortugas') that the Noddy has habits of flight similar to those I observed, and so have little doubt that the five birds I saw on the 18th were of this species.

The books seem to make no mention of the fact that in general appearance, the Noddy and Sooty Shearwater are strikingly alike. Unless one were fortunate enough to note the shape of bill or the color of the forehead, or were well acquainted with the flight of the two species, it would be almost impossible to separate them in the field. The descriptions as written in the literature are not sufficient to separate them.

Mr. A. H. Howell, U. S. Biological Survey, writes me that this is the first record for the Noddy on the Florida east coast. The bird breeds, of course, in the Tortugas, but those seen on the 18th more probably came from the Bahamas, for the hurricane was from that direction.—R. J. LONGSTREET, *Daytona Beach, Florida.*

Sooty Tern (*Sterna fuscata*) and Bridled Tern (*Sterna anaetheta*) on the South Carolina coast.—On July 29, 1926, a tropical hurricane passed the vicinity of Charleston, S. C., the height of the storm was reached during the late afternoon and early part of the night; after 12 o'clock it began to lull. A maximum wind velocity of about 54 miles per hour was reported.

It was not until the morning of August 2, that I visited the Isle of Palms (Long Island) for the purpose of gathering whatever birds might have been washed ashore. Landing on the southern end of the island, which is practically uninhabited I walked the entire length, a distance of approximately nine miles, and back. About halfway up the island, I came upon the carcasses of two Terns, lying within twenty-five feet of each other; they were putrid and partly eaten by crabs, but at a glance were seen to be either *fuscata* or *anaetheta*.

I hurried on and found a number of Audubon's Shearwaters (*Puffinus l'herminieri*), likewise putrid and stripped of flesh; a careful count showed that there were fourteen of these birds dead on the beach.

The Terns were obviously different species, and on my return home, I took them to Mr. Arthur T. Wayne, who brought out specimens from his great collection. We compared them and found beyond all question that

they were specimens of *Sterna fuscata* and *Sterna anaetheta*. Unfortunately they could not be preserved entire, but I succeeded in saving the bills, wings and tails.

This is the third South Carolina record for the Bridled Tern, and, so far as I know, the second record for the Sooty.—E. VON S. DINGLE, *Mt. Pleasant, S. C.*

Two Birds New to the Fauna of South Carolina.—A Noddy Tern (*Anous stolidus*) was captured by Mr. T. M. Evans, County Agent, on July 29, 1926, near Myrtle Beach, Horry Co., and sent by him to Prof. Franklin Sherman at Clemson College who skinned and prepared the specimen which is now in the collection of that institution.

In my book 'Birds of South Carolina,' published in 1910, I placed this species in my hypothetical list on account of insufficient evidence of its occurrence in the state. The present specimen was evidently blown here by the hurricane which wrecked Nassau, N. P.

On July 30, 1926, a female Yellow-billed Tropic Bird (*Phaethon lepturus catesbyi*) was captured alive in a road at Jocassee, Oconee Co., which is at the Blue Ridge Mountains and was sent by Miss Sarah Godbold to Prof. Franklin Sherman at Clemson College who skinned the specimen. Prof. Sherman in a letter to me said that the bird was brought to him by Mr. L. E. Young of Charlotte, N. C., but the owner of the specimen was Miss Godbold. This bird was also brought to South Carolina by the hurricane and is the first record for the state. The specimen is now in my [Wayne's] collection.—ARTHUR T. WAYNE, *Mount Pleasant, and FRANKLIN SHERMAN, Clemson College, South Carolina.*

White Pelican in Southeastern Pennsylvania.—A White Pelican (*Pelecanus erythrorhynchos*) was captured alive on the evening of October 5, 1926, on a sand-bar near Overview, Cumberland County, Pennsylvania, by Mr. William E. Givler of Camp Hill, who brought it to this office for identification. It had been chased by several persons during the afternoon of the day of its capture, but evaded its pursuers until a passing motor boat frightened it to shore where it was easily overtaken, although its wings seemed to be in sound condition. I believe it had been weakened by starvation, for it weighed but little more than eleven pounds, despite the apparent bulk of its body. It was apparently not fully adult for the plumage of the upper back and the lesser wing coverts was pale brownish gray, not white, and the eyes were blue-black. It was sent to the Philadelphia Zoological Gardens.

On October 7, Mr. S. G. Millhouse saw a flock of five White Pelicans circling above a pond on his farm, which is located between the ridge road and the mountain two miles north of Shippensburg, Cumberland County. He shot one of these birds, believing it to be a Goose. The specimen, which has a wing spread of eight feet two and one-half inches will be mounted for the Pennsylvania State Museum.—GEORGE MIKSCH SUTTON, *Game Commission, Harrisburg, Pennsylvania.*

European Teal in North Carolina.—The Academy of Natural Sciences of Philadelphia has just received a fine adult male European Teal (*Nettion crecca*) shot on Currituck Sound, N. C., on December 7, 1926 by Mr. Charles M. B. Cadwalader.

This species seems to be decidedly rare in the United States but the small number of published records of its occurrence may be due to the fact that sportsmen do not distinguish it from the Green-winged Teal (*Nettion carolinense*.) A careful examination of the bags at the several ducking clubs might bring to light a number of specimens each year.

The European Widgeon (*Mareca penelope*) is much more easily distinguished from its American ally by the bright rusty head and no doubt for that reason we have many more records. Mr. Cadwalader obtained two adult males of this species on December 11 and an immature male on November 12 all at the same locality.—WHARTON HUBER, *Academy of Natural Sciences, Philadelphia*.

A Death Trap for Ducks.—When I was on the Grand Cascapedia this summer I received information relative to a death trap for Ducks that had never come under my observation before.

Grand Cascapedia is a salmon stream which puts into the Bay of Chaleur from Bonaventure County, Quebec.

We have two kinds of Ducks there in the summertime—the Black Duck that breeds in the lagoons and sloughs and bog-holes, and I might say in passing that I saw fewer of them this year than for many years, and the Common Golden-eye which nests in trees. On the flats the large trees are elms, many of them hollow. These the Golden-eyes use. One year one was blown down in a storm, and a short time after a particularly pot-bellied *fontinalis* trout was caught by my son, and on opening it a little downy duckling was found.

But to my story. In May, 1926, Russell Campbell, a carpenter and builder of Grand Cascapedia found an elm tree that had been blown over, and on opening it found twenty-eight Ducks in it. His statement to me was "There was that many I was sure of, and there were others I could not count." One of my boatmen informed me that he went over to see this tree, and confirmed what Campbell told me. Campbell said this tree was an elm, that the trunk was about 38 inches in diameter and it was sound up for about 15 feet. Then it was hollow for about twenty feet, and the size of this hollow he said would average about 20 inches. The hole the Ducks used to enter by was nearly at the top of the hollow and was about five inches in diameter. Evidently this hollow elm tree had been a death trap for Ducks for a number of years. The depth of the hole probably prevented them finding their way out.

One of the salmon anglers told me not long ago that a Golden-eye Duck came down his chimney and as he had a screen over the fireplace it could not get out. Fortunately he discovered it in time to liberate it. I have Chimney Swifts do this same trick at my cottage down there fre-

quently. They get down so far they cannot find their way back, so I pull down the window shades and open the front door, remove the screen and out they will go where the light indicates the way.—W. B. MERSHON, *Saginaw, Mich.*

An Unusual Flight of Snow Geese in the Lake Winnebago Area, Wisconsin.—For the past few years both varieties of Snow Goose have been uncommon during migrations on Lake Winnebago. In the spring and fall, flocks seldom numbering more than one hundred birds, have been observed to remain for a brief period, but those vast hordes spoken of by early writers seemed to have disappeared until recently.

On November 1, 1926, while hunting Ducks on Lake Winnebago during a severe northeast snowstorm, I was attracted by a great swarm of birds coming in from the north. They at first appeared to be Ducks, but closer approach identified them as Snow Geese. Driven by the gale, they maintained no particular formation and appeared as part of the drifting snowstorm itself. The darker immature birds gave the flock a peculiar speckled appearance and great bunches of birds fairly filled the sky from the limit of vision down almost to the water's edge. There seemed to be countless numbers of them, and only one flock was observed to alight on the lake, all others maintaining a straight course to the south, and in half an hour all were gone.

It was impossible to determine whether they were the Greater or Lesser, but one specimen shot by a hunter and examined by the writer proved to be *Chen h. hyperboreus*.²¹

Many of the old time hunters of the vicinity who were questioned as to their estimate of the number of birds, stated that they have seen nothing to equal it since the early days.—OWEN J. GROMME, *Milwaukee Public Museum, Milwaukee, Wis.*

Peculiar Flight Action of the Great Blue Heron.—The paragraph in the October 'Auk' "Unusual Actions of a Great Blue Heron," recalls to my mind a peculiar flight witnessed by myself and several others about two years ago in Anne Arundel County, Maryland.

I noticed a Great Blue Heron rise in his clumsy way from the edge of a pond and start to fly by us in a more or less oblique direction. I love to watch these great birds get into the air and start on their flight after stretching their legs out behind and drawing their neck in until the head almost touches the body. I carefully watched this bird and although he placed his legs in the usual position for flying he did not draw in his neck in the usual manner. He flew on by with his head and neck extended and when he disappeared from our sight nearly a half a mile away, they were still in that unusual position. The place in question is much frequented by the young of the Little Blue Heron and during the past two or three years I have been very much amazed to notice several Egrets feeding with the other birds.—TALBOTT DENMEAD, *U. S. Biological Survey, Washington, D. C.*

Great White Heron in North Carolina.—On July 8, 1926, near the town of Durham, N. C., a negro out with his gun, possibly after something for the pot, killed a large white bird that seemed to him likely to fill the bill. Some Boy Scouts from Raleigh in attendance at the Crystal Lake Scout Camp learned of the incident and so frightened the negro with threats of prosecution and dire punishment that the possessor of the bird started to bury the evidence of his misdeed.

One of the Scouts, believing the bird to be an American Egret, secured the specimen and saved the skin. Later, an investigation showed it to be a Great White Heron (*Ardea occidentalis*). The body was thrown away with the sex undetermined, but the following measurements and notes have been made by the writer from the dried skin: Wing, 18.5 inches; bill, 5.77 inches; tarsus, 8.25 inches: the color of the bill and legs are substantially as in *A. herodias*; the plumage is immaculate, without trace of dark markings. The specimen was seen and examined by Dr. T. Gilbert Pearson when here early in September.

I do not recall any abnormal weather conditions in the natural habitat of the species immediately preceding the capture of this specimen.—H. H. BRIMLEY, Raleigh, N. C.

[Might not this bird have been an albino *Ardea herodias*? Even so *A. occidentalis* is little more than a local albino strain of *A. herodias* but this explanation would account for its presence in North Carolina.—Ed.]

Louisiana Heron on Seven Mile Beach, N. J.—On August 29, 1926, we observed a Louisiana Heron at Avalon, Seven Mile Beach, N. J. When first seen, the bird was perched on the top of a Juniper. It sat with its long thin neck extended, eyeing us intently. We observed the Heron for several minutes with our binoculars and plainly made out the brown neck and white underparts—clearly defined from the dark breast,—before the bird made off and settled on a distant tree. The Heron corresponded very closely in size and shape to the Little Blue Heron.—WILLIAM YODER, Philadelphia, Pa., and JULIAN K. POTTER, Collingswood, N. J.

Yellow-crowned Night Heron in New Hampshire.—On September 23, 1926, in the early morning while hunting in the Blue Mountain Forest in the town of Grantham, New Hampshire, W. S. Brooks and I saw a most bedraggled and disreputable looking Yellow-crowned Night Heron. I had an excellent look at the bird as it was first perched on a dead birch beside a tiny mountain stream and a second later as it flew across an open clearing several acres in extent.

I have been familiar with this species all my life and presume from the bird's appearance and the locality that it had been carried perhaps high in air by the great Florida hurricane of a few days before and by chance had settled in central New Hampshire, for locally there had been no great atmospheric disturbance.—THOMAS BARBOUR *Mus. Comp. Zool., Cambridge, Mass.*

The Martha's Vineyard Crane.—I was interested in Dr. J. Percy Moore's note on the observation of a Crane at Martha's Vineyard, Mass., in the October, 'Auk.' Such a bird is well known to those Woods Hole scientists who are interested in ornithology. I first saw it on August 12, 1921, and promptly became very much excited only to have my ardor quenched by a more seasoned colleague who informed me that the bird was the male of a pair of Japanese Cranes, the female being wing-clipped, which are kept on the estate of Mr. Whittemore near Quisset, a village of Falmouth, Mass. I have seen this bird every year since, both near the Whittemore estate and flying back and forth over Woods Hole. His impressive note which Dr. Moore describes so well is heard almost daily.—S. C. BROOKS, *Rutgers University, New Brunswick, N. J.*

[Dr. L. C. Jones of Falmouth, Mass., writes further that the bird has been living on the Whittemore estate for ten years or more. He has had complete liberty and ranges far and near but always returns home at evening, and always brought a fish to his pinioned mate until her death some years ago. The species is apparently *Megalornis japonensis*.—Ed.]

Late Nesting of Wayne's Clapper Rail.—While investigating the salt marshes close to New Smyrna, Volusia Co., Florida, on July 18, 1926, I found three nests of Wayne's Clapper Rail. The first nest was found in a patch of salicornia, built on the ground, of round-stemmed dried marsh grass. It was a flat compact nest shielded from view by a canopy of salicornia, on one of the many mangrove islands that dot the Indian River at this point. The bird flushed while I was about fifteen feet from the nest, flew about twenty feet and was silent. The nest contained seven eggs.

Going to another island not far away I found two more nests with seven and nine eggs. Both were built on the higher parts of the island above the tidewater mark, and were placed several inches up in small young mangrove bushes growing among dense marsh grass and well concealed. None of the three sets were heavily incubated.

On July 31, 1926, I found a nest ready for eggs in the salt marshes along the Halifax River, near Whilbur-By-The-Sea, Volusia County, Florida. As these birds begin nesting in March it is evident that the breeding season lasts fully five months.

On the same date on which the nests of the Rail were found I also found a nest containing three eggs of the Gray Kingbird and another nest with two young about two days old. These were second sets as the same birds bred in late May and raised broods.

I also found a Yellow-billed Cuckoo's nest in a Mangrove twelve feet up, containing two well incubated eggs. The female flushed and alighted in a nearby tree, watched for several seconds and flew among the mangroves but made no sound.—DONALD J. NICHOLSON, *Orlando, Florida.*

Buff-breasted Sandpiper at Cape May, N. J.—On September 25, 1926 on a shallow pond back of the dunes below Cape May, N. J. I found a single Buff-breasted Sandpiper (*Tryngites subruficollis*) in company with several Pectoral Sandpipers. The bird stood out prominently in contrast to the Pectorals on account of the uniform light buff coloration. It was studied through the binoculars at a distance of about forty feet and all details of plumage could easily be seen, the shell like pattern of the upper parts and the small spots on the sides of the breast. The very short bill was also noticeable and in conjunction with the buffy plumage recalled the larger, Upland Plover (*Bartramia longicauda*). The Buff-breast had lost part of one leg and was content to rest perfectly still with the plumage somewhat ruffled up. When disturbed it flew a few yards and finally becoming alarmed flew off toward Delaware Bay.—WITMER STONE, *Academy of Natural Sciences, Philadelphia*.

Wilson's Phalarope in Massachusetts.—On August 15, 1926, Mr. Charles E. Clarke, of Medford, Mr. George W. Bryan, of Salem, and the writer saw a Wilson's Phalarope at Clark's Pond, Ipswich, Mass. It was in adult fall plumage, very light—about the color of the Sanderling in autumn. The bill was long, slender and black in color, legs and feet dull yellowish and there was no white in the wing. The sides of the head, under parts and tail were mainly white, and once when it flew a short distance and alighted facing away from us we remarked on the peculiar shape of the tail, which is described as doubly emarginate. We watched the bird for over an hour through our binoculars. It was in perpetual motion, darting first one way and then another, with lowered head and neck outstretched and with a slight sinuous motion of head and neck, apparently feeding on minute insects in the air. For the greater part of the time it was on the land, and when in the water merely waded along the edges.

On August 28, at City Point, South Boston, another bird of this species was seen by a number of observers, including Mr. Francis H. Allen, of Boston, and the writer. This bird was resting at the edge of a pool and preening its feathers. It allowed us to approach within twenty feet before taking wing, and all the characteristics of bill, legs and absence of white in the wing were carefully noted.

There have been very few previously recorded instances of the occurrence of this species in Massachusetts.—GEORGE L. PERRY, 68 *Thurston Street, Winter Hill, Somerville, Mass.*

Golden Plover (*Pluvialis dominicus*) at Sound Beach, Conn.—On May 30, 1926, the writer with L. De F. Johnson of Searsdale were on the beach at Tod's Neck, Sound Beach, Conn. from 7:30–10:30 A. M. standard time, and having been particularly lucky with shore birds, cut across into the salt meadows, to the southeast end of the neck. Here our attention was attracted by three Plover which we took, at a distance, to be Black-bellied (*Squatarola squatarola*). Cautiously approaching

within a hundred feet with the sun at our backs we saw that the birds were really "Gold-backs;" one male in full nuptial plumage with two females. Collection would have been not only sacrilege but unnecessary for identification as the birds were later approached to within fifty feet, being as tame as the numbers the writer found on the golf course at Galveston, Texas, early in March. We believe that this is the first authentic record of this species along the Westchester-Fairfield shore of Long Island Sound, and, to our knowledge, the only spring record for the New York City region since May 10, 1885.—RUTGERS R. COLES, *Mamaroneck, N. Y.*

Another Late Nesting of Bob-white.—In the "General Notes" of 'The Auk,' January, 1926, I mentioned having found a Bob-white (*Colinus virginianus virginianus*) incubating eggs on September 11, 1924. An even later nesting date occurred this year (1926). On September 21 young hatched from nine eggs in a nest observed by Mr. Allen A. Green in Des Moines County, Iowa, who states that some twelve days before, while mowing alfalfa, the female Bob-white was flushed from the nest, and the eggs were left so generally exposed it was a surprise they were not abandoned.—HAROLD M. HOLLAND, *Galesburg, Ill.*

Monetary Value of Marsh Hawks.—The appraisal of the value of birds and its estimation in dollars and cents has given rise to a varied assortment of figures. From the very complexity of the problem and the many intangible factors that may enter into it, not to mention the variable degree of personal zeal displayed by the appraiser himself, such figures fall largely in the category of mere guesses. Few of them can be looked upon as products of truly scientific deduction. With any one of our common birds feeding on hundreds of specifically different items, each one of which in turn may have a greater or less effect for good or harm, what chance is there in our present state of knowledge to interpret this work in terms of the coin of the realm?

It is with a bit of hesitation, therefore, that I submit this contribution on the Marsh Hawk. The fact that the appraisal given is an estimate of the value of only one activity of this bird, exhibited under peculiar conditions where its worth could be readily compared with factors upon which a more or less definite monetary value could be placed, affords the necessary excuse.

During September, 1926, I was engaged in working out measures of crop protection against the depredations of Red-winged Blackbirds and Bobolinks on the Oaks Plantation, ten miles south of Wilmington, N. C. With the exception of a few acres on one other plantation a few miles to the south, the Oaks Plantation supports the only cultivated rice now being grown in North Carolina. Here Bobolinks on their southward migration meet the first of the few remaining ricefields in the South Atlantic States. These birds aided by resident and migratory Redwings are still important hindrances to the successful production of rice. Bird minding must be

resorted to, and in some seasons severe losses are experienced in spite of the expenditure of considerable ammunition and labor in bird minding. It is as an aid in this work that I wish to extol the virtues of the Marsh Hawk.

During the period of my stay (September 7-18) Marsh Hawks were plentiful, and Big Island, containing 130 acres of the rice on the Oaks Plantation, was a favorite hunting ground. Sometimes as many as eight or ten could be seen quartering back and forth over this island and the adjacent mainland. Five would seem to be a fair estimate of the average number of individuals present throughout all hours of daylight.

These birds kept the Redwings and Bobolinks in constant turmoil, the flocks taking wing whenever a Marsh Hawk approached. Though never seen to strike into such flocks, these birds of prey were always on the lookout for cripples, and in the course of the day appeared to secure a sufficient supply from those maimed by the bird minders.

Their constant flight back and forth served as an effective aid in the bird-patrol work, and, although they were indiscriminate in their wanderings, flushing the flocks from patches of wild growth as readily as from the cultivated rice, their work was more thorough than that of the human bird minder. Few, if any, Blackbirds or Bobolinks remained after one of these Hawks had passed. Two weeks' observation of their activities resulted in the conclusion that in general one Marsh Hawk was fully as effective an agent for crop protection as an individual bird minder armed with a shotgun. In this opinion I am supported by resident farmers, who hold the Marsh Hawk in almost universal esteem—a fact reflected in the common name that they give to it. The name, "Old Charley," as they apply it, reflects their conceptions of both reliability and faithful comradeship.

On the basis of five Marsh Hawks constantly present in the rice area of the Oaks Plantation, doing patrol work equivalent to that of five men armed with shotguns, it is not difficult to give monetary equivalents for this service. The cheapest colored labor of the section demanded \$2 a day. Without making allowance for the cost of ammunition shot by such minders, an item that might amount to several dollars a day for each man, it will be seen that the services of the Marsh Hawks on this one plantation can be conservatively estimated at \$10 a day. Including the periods of the "milk," "dough," and "harvest" stages of the crop, during all of which rice is subject to attack by either Bobolinks or Blackbirds, thirty days of useful service may be expected annually from the Marsh Hawks on the Oaks Plantation—service that could not be hired by the owner for less than \$300.—E. R. KALMBACH, *Biological Survey, Washington, D. C.*

An Autumn Hawk Flight.—On September 14, 1926, at 11:50 A.M. (standard) near the top of Mt. Monadnock, N. H., an extraordinary flight of Hawks was seen. A light breeze blew from the east, and overhead

extending in all directions to the horizon drifted masses of cumulus clouds with patches of blue sky between. Looking far out to the northwest two Hawks, perhaps a mile away, were seen wheeling over the valley at a slightly lower level than our point of observation. Then, as if from nowhere, other Hawks rapidly appeared, swooping, turning and soaring upwards in irregular steep spirals. More and more individuals appeared until the specks resembled a swarm of large insects, black against the pearl gray clouds. The total number was estimated to be between thirty and forty. Now they soared slowly, now flew with rapid wing beat at great speed. Each individual chose his own course without evidence of leadership. In from five to ten minutes (the exact time unfortunately was not noted) the flight had gained great altitude and to our astonishment the highest birds began to disappear in the clouds, some of them reappearing and again diving into the mist. Finally the whole flight had spiralled upward into the cloud mass and was lost to view. Once, half a minute later, a few specks wheeled out toward us and for a moment could be dimly seen through the edge of the cloud. That was the last glimpse.

Continuing to the top of the mountain we asked the forester stationed there his estimate of the height of the clouds, he thought them to be about 7,000 ft., for the top of Mt. Washington was clearly visible.

One of the interesting points about the flight was the speed with which it gained altitude—roughly 3,000 or 4,000 ft. in five or ten minutes. It seems probable that these Hawks were assembling for the migration and that, like a bombing squadron, they found it advantageous to rise above the cloud curtain before starting south. In fact as they circled upwards the whole flight was already moving in a southerly direction.

They must have been one of the larger Hawks, probably *Buteo*, though without field glasses we could not identify the species.—H. S. & H. B. FORBES, *Milton, Mass.*

Goshawks and Snowy Owls.—The present season is a remarkable one for the number of Goshawks (*Astur atricapillus*) and Snowy Owls (*Nyctea nyctea*) which have been killed along the Atlantic Coast from Canada south to Maryland. Three taxidermists in Maine are reported to have mounted upwards of one hundred Snowy Owls, and others have been brought into New York, Philadelphia and Washington. Two flew directly at some duck hunters in a skiff on the Chesapeake and were shot, while one or more have come onto ocean liners while still some distance off shore.

The Goshawks have been even more abundant and one gunner in northern New Jersey has personally handled over one hundred. This would seem to be the greatest flight of these birds for at least forty or fifty years.¹—WITMER STONE, *Academy of Natural Sciences, Philadelphia.*

Nesting of Short-eared Owl in Illinois.—The item contributed by Mr. Pierce Brodtkorb published among the "General Notes" in the July

¹ See end of "Notes and News", beyond.

issue of 'The Auk,' with the title "Short-eared Owl Breeding in Illinois," suggests a record which perhaps has not found its way into print.

In the early part of May, 1910, when calling at the home of Mr. Benjamin T. Gault, at Glen Ellyn, Illinois, I was shown a skin of a newly hatched Short-eared Owl which he had just prepared. It was taken from a nest of seven or eight eggs which, when found a few days before, were on the point of hatching. It is my recollection that Mr. Gault said that it was his first breeding record for the species and that the nest had been found not far from his home. It is upon this and doubtless other records that Mr. Gault lists the species as a breeder in northern Illinois in his list of the birds of the state.—EDWARD H. FORD, *Washington St., Grand Rapids, Mich.*

Pileated Woodpeckers Wintering in Cleveland County, Oklahoma.—The most exciting find of our 1925 Christmas census was a Pileated Woodpecker; it was the first time we had seen this fine bird in central Oklahoma. On January 1, 1926, the female *Phloeotomus pileatus pileatus* was found in the same deep woods near the South Canadian River and I was fortunate enough to be able to watch her for over an hour. I heard her loud cry and saw her hammering at a bare place on the side of a cottonwood branch; she would pound for a while and then insert her beak and appear to bore. All at once I noticed a Flicker creeping quietly up the limb; when within a foot of the great stranger it stopped and waited. The Pileated soon changed her position to the top of the branch, whereupon the Flicker unobtrusively slipped into her place and inserted its bill into some of the holes. All at once Pileated discovered the interloper and made several dabs with her beak; the Flicker made a few dabs in return, then dropped to a lower limb. The Pileated flew with a cry to another cottonwood, while the Flicker hurried back to the interrupted feast.

Later the Pileated Woodpecker, taking no notice of me, flew to small trees and alighted on a fallen log; she was incautious and noisy. In the distance I heard a loud *Wick-up wick-up wick-up*; she answered *pup-pup-pup-pup-pup*.

On February 1, I caught only a glimpse of this same bird although we sometimes heard them and saw evidences of their recent work when we visited these woods. It was not until April 6 that we saw one again; this time it was the male. April 21, was the last date on which I recorded one of these Woodpeckers.—MARGARET M. NICE, *Norman, Oklahoma.*

Say's Phoebe at Brooklyn, N. Y.—It has been my good fortune to add to the already long list of birds of Dyker Heights Park, Brooklyn, a sight record, under very favorable circumstances of Say's Phoebe (*Sayornis sayus*).

The bird was observed at close range, feeding on insects of some sort quite near the ground in a patch of weeds near the two ponds, a quarter

of a mile from Gravesend Bay. It was not shy but perched first on the weed stalks and later on the ground, making short sallies into the air.

This is the first record for the New York region and one of a few east of the Mississippi. The date of first observation was September 25, 1926, and the bird was seen again on the 28th which is remarkably close to the date for a specimen taken at North Truro, Mass., September 30, 1889 (Howe and Allen, 'Birds of Massachusetts,' p. 80).—WARREN F. EATON, 65 Wortle St., New York, N. Y.

Habits of Blue Jays and Doves in Central Kansas.—Apropos of the remarks of Mr. J. A. Farley and Dr. Witmer Stone in 'The Auk' for April, 1926, page 239, regarding the changed habits of Blue Jays it is interesting to note that a similar condition prevails in this neighborhood. Jays instead of shunning civilization while breeding actually seem to seek it. The military reservation of some 30,000 acres of very varied country, constitutes a large sanctuary where birds abound. In the abundance of birds scattered over this differing terrain there is a notable concentration in the immediate vicinity of the buildings of the established post.

Blue Jays which are common in this region are especially to be found around the houses and lawns and breeding in the trees. Many nests were found in conspicuous positions around buildings; one in particular in the branches of an elm tree about 15 feet directly above the walk in front of my house. Four young were hatched about June 4, 1926 and remained in the immediate vicinity until late in August during which time the parents continued to feed them. They were very noisy and almost every morning were to be heard clamoring for food in the trees about the house. On one occasion a parent was observed hammering lustily on a limb at some object held between the feet. On frightening the Jay away it dropped a freshly killed and nearly full grown nestling English Sparrow.

It was further of interest to note that Mourning Doves preferred the vicinity of buildings to the wooded and secluded canyons of the back country by a ratio of at least ten to one. Most of the trees along the main walk contained a nest apiece some of which were used at least twice, several hundred young being raised. One nest in particular was of interest in that a family of Yellow-billed Cuckoos occupied it first in early June after which three families of Doves were raised in it in succession. The last hatching occurred as late as September 17.—LEON L. GARDNER, Fort Riley, Kansas.

Starling Nesting in Wisconsin.—On June 13, 1926, I discovered two adult Starlings (*Sturnus vulgaris*) on a barn on the farm of John Geiger, about three miles south of Waukesha, Wisconsin. Mr. James Crookston was with me and for some time, with 9x binoculars, we observed the birds coming and going. I had seen Starlings in England during the war and was certain of the identification. Mr. Geiger had told me in early spring

of finding some unusual birds about his barns. They were again observed on June 18 and 19, and on the latter date a nest was discovered in the cornice on the east end of a small barn, about 35 feet from the ground. Mr. Geiger helped me remove some shingles and we examined the nest, finding four pale blue eggs. The nest was composed chiefly of dried grass. On the 23rd a new roof was put on this barn, sealing up the opening to the nest, but we had previously arranged to remove a small section of a cornice board which would allow the birds to enter the nest cavity. This new opening was used from then on. On this date young birds were heard in the nest.

On June 25, Mr. Geiger and I removed the young for examination and found them to be about half grown. The adults were again seen feeding the young on the 27th. On the 28th, while observing the nest with Rev. O. W. Smith of Evansville, a second nest was discovered on the north end of a large barn, about 40 feet from the ground. This nest was also in a cornice. On July 3, Mr. Geiger and I examined both nests, finding only one young left in the first one. The bird was removed and banded. At the second nest we could hear the young, but from the entrance it was impossible to reach them without destroying too much of the barn. I visited the farm on July 18 and on August 22 but no birds were observed on either occasion. None have been seen by the Geiger family since these dates.

These nests were probably second broods, for during one of the early visits, one full grown immature bird was noticed with the adults. The plumage was distinctly different, grayish in color, and the bill was dark. I know of no other Wisconsin records for the Starling except two adults taken in winter and reported by Herbert L. Stoddard, (Auk, Volume XL, page 537). These are probably the first redorded nests for the state.—S. PAUL JONES, 425 Maple Avenue, Waukesha, Wis.

Decrease in Starlings in New Hampshire.—So far as I have been able to observe, Starlings (*Sturnus vulgaris*) seem to be decreasing extremely fast, although during the past two seasons their nesting activities have increased. In 1922 a few stragling individuals were seen in company with Crows about the middle of February, but only remained a short time and no others were recorded until the winter of 1923-24 when a flock of about 200 suddenly appeared apparently from nowhere and took up their abode here during Thanksgiving week. Since that time until last winter when I was unable to count more than 100 at a time, Starlings bore down upon us in flocks of 400, 500 and 600 each. They gleaned the frozen and rotted apples from the trees and the noise made by their whistles, squeeks, janglings and squawks was at times almost unbearable.

About twelve pairs remained to breed though I utterly failed to find their nests, and throughout the summer a few birds could be seen about the village. When winter came the Starlings appeared as before in flocks of hundreds foraging through the orchards of the surrounding hills,

but with the first warm days of spring the majority disappeared and when they came back the next winter their ranks were reduced at least one-half.

Two pairs bred in 1925 under the eaves of the barn, the birds forcing an entrance through the wooden shingles of the roof. In 1926, the same nest sites were used again but as soon as the young were on the wing they left the vicinity and up to this writing (October 20, 1926) no Starlings except a stray bird or two have been seen.

When nesting I noticed the birds jerking living leaves from the trees and carrying them in apparently for building material, and birds nesting in old Woodpeckers' holes in a nearby orchard carried chips and whatnot out of the cavities and stowed them away in crevices in the trunk of a birch tree where branches forked from the main limbs, one such place held a quart of material. The hole which they were excavating was found later to be seventeen inches deep.—LEWIS O. SHELLEY, *East Westmoreland, N. H.*

Grackles Killing Young Pheasants.—At my Game Farm on the Pickering Creek, in Chester County, Pa., we lost, in the Pheasant field, almost three hundred little Pheasants (*Phasianus*), a few days old, which were destroyed by Purple Grackles (*Quiscalus q. quiscula*). The male Grackles were the ones that did the damage. They came into the enclosure and simply took the heads off the little birds, leaving the bodies.

This happened during the end of June and the first of July, when the Grackles were, apparently, nesting in old cherry trees fairly close to the Pheasant field. We actually shot some to these birds in the act of committing the murder, and, as I said before, when we stopped them, they had killed almost three hundred. My observation makes me believe these depredations were confined to a few pairs of Grackles, and that this is not, necessarily, a general characteristic of this bird. This is the first time I have had any experience with them that was anything but to their credit.

Since writing the above I chanced to be looking over the August (1926) number of the 'Game Breeder' and on page 170 in an article by Lillian E. Beyers is an account of a Magpie attacking a hen Pheasant and killing some of her young and also the following statement: "I have also seen Blackbirds carry off baby Pheasants in alarming numbers. I found that the Blackbirds would fly down, pick the young Pheasant violently upon the head and hurriedly dismember it and carry it off to the trees nearby to feed a hungry nest of young of their own." The "Blackbird" referred to is obviously the western representative of our Purple Grackle, the Bronzed Grackle.—FRANK B. FOSTER, *1800 Morris Building, Philadelphia, Pa.*

A House Finch Infected by Fly Larvae.—Once in a while one can catch a juvenile House Finch (*Carpodacus frontalis mexicanus*) which has left the nest, but is still not able to evade capture by hand. About

August 1, 1926, I caught one of these young Finches, which seemed unusually docile. An examination of the bird disclosed a good sized swelling in the cellular tissue just below the right eye, a swelling that proved to be an abscess containing three small living larvae which were removed by expression. Thereupon the bird was liberated, was seen about my premises all that day and was much more lively than before. The larvae were placed on fresh meat, and in a week pupated; in another week two of the pupae matured. I am indebted to Dr. A. K. Fisher and Mr. W. L. McAtee of the Biological Survey for their kindness in identifying the flies which came from the pupae, which proved to be *Protocalliphora splendida* Macq, which I am told is a well known parasite. In a study of the House Finch (Auk, January, 1913) I once found fly larvae in the raw wool foundation of one nest, but this is my first experience in detecting fly larvae in the body of a living House Finch.—W. H. BERGTOLD, Denver, Colo.

The Snow Bunting (*Plectrophenax n. nivalis*) taken near Charleston, S. C.—On the morning of November 15, 1926, I had the pleasure of taking the first specimen of the Snow Bunting (*Plectrophenax n. nivalis*) to be recorded from South Carolina.

On November 13, I had procured and framed Audubon's beautiful plate of this species, and on the 14th, I was driving my wife to McClellanville a little town on the coast, some 36 miles to the north of Charleston. When, about half way, as we were skirting a section of brushy land, a bird flew up from the roadside, in front of the car, and wheeled out into the bushes. Its appearance struck us both, it was as white a small bird as I had ever seen, and I immediately stopped, turned to my wife and asked, "What in the world was that bird?" She replied at once "it looks exactly like that bird in Audubon's plate."

I stepped out on the road, and at once saw the bird leave the bushes, and fly down into the road. I had a pair of 6x binoculars and as soon as I looked at the bird, I knew it was a Snow Bunting. Another car coming along at this moment scared it again, and it took to the bushes. I, of course, had no gun.

We kept on to our destination, and returned the same night. Upon arriving at the Charleston Museum the next morning, I related the experience to Mr. E. B. Chamberlain, and he agreed to return to the spot with me to see if the bird was still in evidence. This we did.

I stopped the car within five feet of the spot where I had seen the bird the previous afternoon, and had no sooner shut off the motor, than a flash of white was noted at the roadside and the bird flew into the road and was collected. It was flushed within ten feet of where it got up on the day before, and was shot within fifty feet of the spot where I had studied it through the glass.

Why the bird was present, who can say? There had been no cold weather, the mercury on the afternoon when the bird was seen stood at

84 degrees, and the day on which it was shot, was warm. At any rate the indisputable evidence is a female in fine plumage.—ALEXANDER SPRUNT, JR., *Charleston, Museum, Charleston, S. C.*

The Cardinal in Colorado.—Through the kindness of Mrs. R. J. Kerruish of Littleton, Colorado, I am able to place on record an indubitable breeding occurrence of the Cardinal (*Cardinalis c. cardinalis*) in Colorado. There are, so far as I know, but four previous records for the State, the first by Anthony who reported one taken on December 5, 1883 "below Denver," the second by Nash who stated that one was seen near Pueblo, November 28, 1895, and a third by Lowe, who reported (Auk, 1917, p. 455) that he has in his collection a specimen which was taken in Beulah, Colorado; he was unable to decide whether this bird was an escapee or a wild bird, and did not give the date of capture.

There is abundant information relating to the present record: Mrs. Kerruish wrote me under date of May 14, 1926, that "This is the third season that they [the Cardinals] have nested here [Littleton, Colo.]. The first time I saw them was June 26, 1924, when I saw both male and female and the nesting place; last year I heard the song many times, but could not locate the nesting place. This year the male returned near the first of March, the first time I saw him was March 2; I am told the female is here now but I haven't as yet seen her."

The extreme rarity of the species in Colorado impelled me to drive out to Littleton, ten miles south of Denver, early on the morning of May 31, to see these birds. However, I arrived too late as the male had visited its favorite bird bath shortly after daybreak that morning. On June 6, determined not to miss the bird again, Miss Prue Bostwick and I reached the premises of Mr. and Mrs. W. H. Ficklin in Littleton before daybreak, and to our delight the male appeared at 4:30, shortly after the return of daylight. The bird was a full plumed, brilliantly colored individual, bubbling over with song. We had a close view of the bird, and ample opportunity to study the black marking at the base of its bill, a marking of sufficient depth to justify one in classifying the bird as of subspecies *cardinalis*. I understood through roundabout information that a Cardinal was seen, by others, all the past winter in the neighborhood of Littleton; how trustworthy this report is I cannot say.

Mrs. Kerruish's detection of the nest in 1924 adds another bird to the breeders of Colorado.—W. H. BERGTOLD, *Denver, Colo.*

Nonpareil Breeding in Cardinal's Nest.—In a small Japanese privet tree in my garden in Charleston a pair of Cardinals (*Cardinalis cardinalis cardinalis*) built a nest this past April (1926) about ten feet above the ground. In due time three nestlings were brought into the world. Before they were fully fledged, a Florida Grackle (*Quiscalus quiscula aglaeus*) devoured them, and the parent Cardinals deserted the nest.

This was in early May. On June 24, I was told that a "small greenish bird" had been seen to enter the deserted Cardinals' nest. Investigation revealed the fact that this bird was a female Nonpareil or Painted Bunting (*Passerina ciris*) and that in the nest were three tiny, nearly naked Nonpareil nestlings.

Examination of the nest showed that in adapting it for their use the Nonpareils had not altered the appearance of the exterior. They had, however, made the opening smaller, by weaving around it grass and fine palmetto fibers, and had thus given it a more compactly constructed rim. In thus building up the rim, they had made the depression or cup decidedly deeper. They had also put into the nest a beautifully woven lining of fibres much more skillfully contrived than the rather loose lining of a typical Cardinal nest.

Two of the Nonpareil nestlings came to grief in some unknown way before they were fully fledged. The third left the nest on July 6.

The Nonpareil breeds abundantly in this region and is a familiar summer bird in my garden in Charleston but I have never before found it making use of the nest of another species of bird.—HERBERT RAVENEL SASS, Charleston, S. C.

The Dickcissel in Colorado.—Cooke in his 'Birds of Colorado' characterized this species (*Spiza americana*) as a rare summer resident, a very correct definition of its status in 1897, for there had then been but three published records, so far as I can learn, of the occurrence of the Dickcissel in Colorado. He enumerated the following locations in Colorado, as places where the Dickcissel had been detected, Fort Collins, Colorado Springs, Canyon City, Beulah and Fort Lyons. Cooke listed the species as breeding on the plains of Colorado, but I know of no record giving definite particulars concerning its nesting.

In the past seventeen years there seems to have been a change in the abundance of the species in this State. By 1909, Cooke was able to say in his last supplement to the 'Birds of Colorado' that it was "not rare," showing that the species was becoming more frequent, a condition which has prevailed up to date. It is very plain from many reports sent in to me during the past ten years from various parts of the state that the Dickcissel is growing more common yearly, especially in some districts, as the Arkansas Valley. In view of this summer's experience the species may be said to be almost common and there must have been a very extensive wave of these birds into Colorado this season. Mrs. John Weldon tells me that it has been "thick" in the vicinity of her home, about eight miles west of Loveland, and that two pairs nested in her neighborhood. This is the first definite breeding record for Colorado so far as I know. Mrs. Weldon also saw Dickcissels near Boulder this summer, and reports that she has noted the species in her vicinity practically every summer since 1905.

Miss Prue Bostwick saw a single Dickcissel at Parker on June 8, 1926.

while my first sight of a Dickcissel in Colorado was on July 20, when two males were noted in Aurora, adjacent to Denver on the east. A third was seen the next day in the same neighborhood, and a fourth well within the eastern border of Denver on July 30, apparently the first record for the city. Mr. McCrimmon has published his observation of the species in the western part of the state ('Auk,' 1926, p. 550).—W. H. BERGTOLD, Denver, Colorado.

More Notes on Cliff Swallows.—In the October, 1924, issue of 'The Auk' I reported the return of Cliff Swallows (*Petrochelidon lunifrons lunifrons*) to Brookfield, Mass.

The next summer Mrs. Charles Thompson of New Braintree, a neighboring town, told me that some strange Swallows had come to her farm and were building inside the barn. I accordingly investigated and found a small colony of Cliff Swallows.

When the large barn door was open these birds had entered and begun plastering nests along the side of the center beam which supported the middle scaffold of the barn. Since the Cliff Swallows would not use the small windows under the roof as the Barn Swallows have always done, Mr. Thompson kept the large door open all the nesting season for their accommodation.

Unlike the nests built by the Brookfield Cliff Swallow colony under the eaves outside the barn, these nests were not retort shaped. One pair of birds forsook the colony and built a nest under the piazza roof close to the right of the back door where they seemed as undisturbed by the constant traffic through the door and slamming of the screen as did their barn kinsmen when high loads of hay passed perilously near their homes.

Shortly after the eggs had hatched in the nest under the piazza roof, it crumbled to pieces and fell with the young to the floor. Fortunately the Thompsons saw the tragedy and Mr. Thompson hung a strawberry box up where the nest had been plastered and put the two young birds in it. The parent birds spent so much time covering the strawberry box with mud that it seemed at first as if their nestlings were neglected. They thrived, however, and were interesting pets when learning to fly.

This spring the Swallows returned and a pair set about repairing the strawberry box. All the other birds nested as before in the barn. Something happened to an egg in the strawberry box and the home was deserted. Still wishing to dwell apart these Cliff Swallows made over a Phoebe's nest much to the Phoebe's disgust, as it was in the interim between her first and second brood, and raised a family successfully there.—CLARA EVERETT REED, Brookfield, Mass.

Yellow-throated Vireo Breeding in Delaware Co., Pa.—The Yellow-throated Vireo (*Lanivireo flavifrons*) I consider an uncommon bird in the vicinity of Glenolden, Pa. During the eight years we have lived here, I have observed it but twice. This species evidently prefers

a higher altitude than ours for breeding, Glenolden being practically at sea level, about two miles from the Delaware River. Therefore, it was a pleasant surprise to find it breeding here this summer (1926). A male was under observation from May 15 on, and although I searched diligently for a nest, it was not until June 20, that I saw the two adults at the same time, chasing a Grackle. This led me to suspect that their nest must be close at hand. It was finally located about forty feet from the ground in a large Tulip Poplar tree, about three feet from the main trunk. The male assisted in incubation. Hearing his song, but unable to locate the singer, I chanced to turn my binoculars on the nest, and found that the setting bird was the vocalist. For fifteen minutes he sat in his beautiful little structure, singing intermittently until his mate relieved him. I believe this is a habit of the Philadelphia Vireo, While Mr. William Yoder states he has observed the male Red-eyed Vireo sitting on the nest and singing.—JOHN A. GILLESPIE, *Glenolden, Pa.*

An Unusual Nest of the Parula Warbler.—We have recently received at the Everhart Museum an unusual nest of the Parula Warbler (*Compsothlypis a. usneae*) secured by Mr. and Mrs. A. L. Rogers at Lake Sheridan about twenty miles from Scranton, Pa., where they had the parent birds under observation until the young were reared and left the nest. Instead of being built in a cluster of the usnea lichen this nest was woven into the drooping branch of a hemlock tree. There was not the least bit of usnea used in its construction, the material being entirely vegetable fibres usually fine roots, except for fibres of excelsior obtained from refuse from nearby cottages. The usnea seems to be very much scarcer in this vicinity than it was some years ago and the birds seem to have been able to adapt themselves to the changed circumstances. In Oliver Davie's 'Nests and Eggs of North American Birds,' there is an account of a similar nest reported by the late William Brewster but no other instance has come to my notice.—R. N. DAVIS, *Everhart Museum, Scranton, Pa.*

Bay-breasted Warbler Breeding in the Adirondacks, N. Y.—On July 23, 1926, a female of this species was found feeding fully fledged young, near North Hudson, N. Y. One of the birds was collected and the identification is positive. Eaton states in the 'Birds of New York' that he and five assistants searched for this Warbler in the Adirondacks during the breeding season and "utterly failed to find any but negative evidence of it."—JAY A. WEBER, *151 Grand Ave., Leonia, N. J.*

Rock Wren in Illinois.—On May 30, 1926, at Urbana, Ill., a large peculiar light-colored Wren attracted my attention. After twenty minutes of careful close observation and subsequent comparison with descriptions the bird was identified as a Rock Wren (*Salpinctes obsoletus*).

House Wrens were near, but their big sandy relative from the West

showed no inclination to associate with them. Most of the time while under observation the bird was feeding in a plowed field close to a barbed-wire fence to which it flew and perched occasionally. It allowed me to approach within fifteen feet, from which distance every detail of color and marking was brought out through a good glass, or even with the naked eye.

Just once the bird uttered a note suggestive of that of the Bewick's Wren.—A. SIDNEY HYDE, 1008 S. Lincoln St., Urbana, Illinois.

Singing by Migrant Gray-cheeked Thrush.—The Gray-cheeked Thrush (*Hylocichla a. aliciae*) is generally regarded as one of our most quiet Thrushes during migration. Most ornithologists state that it rarely, if ever, sings, except on its breeding grounds, and none of my bird associates has ever heard it in song. On May 25, 26, and 27, 1926, we experienced the unusual pleasure of listening to *H. aliciae* in full song within a hundred feet of our house in Glenolden, Pa. Briefly described, the song in question commenced with a slurring "wee-oh," strongly suggesting the beginning of a common variation of the White-eyed Vireo's song. This was followed by two, and sometimes three, high pitched, staccato notes resembling "chee-chee," intermingled with almost inaudible cymbal-like tones. From notes taken at the time, the full song might be represented as "Wee-oh, chee-chee-wee-oh, wee-oh," the latter half suggesting the Goldfinch in tone and execution. The bird was very wary and led me quite a chase before I was satisfied it was *aliciae*, or possibly *bicknelli*. Mathews' 'Field Book of Wild Birds and their Music' gives no illustrations of the Gray-cheek's song, but, quoting Torrey, describes the song of Bicknell's Thrush as "wee-o, wee-o, wee-o, tit-ti wee-o," which is a close replica of the song we heard. We were now in a quandary as to which race it was, but bird-banding solved the problem most satisfactorily. On the 26th a Gray-cheeked Thrush was trapped, carefully measured and identified as true *aliciae*. But was this our songster of the day before? The following morning we again heard the rare song, and the singer now wore a band, so the question of identity was settled.—JOHN A. GILLESPIE, Glenolden, Pa.

Notes from the Mt. Marcy Region, N. Y.—The notes here presented were taken in July and August 1926, in the Mt. Marcy region, New York, by Mr. and Mrs. Philip Livingston and myself. We stayed in St. Huberts at the home of Mr. LeGrand Hale who was the guide of Professor Eaton on one of his surveys of the region; and only those notes which may be interesting in the light of Professor Eaton's paper on the Mt. Marcy region (Birds of New York, vol. 1, p. 42) are given here. The identifications are visual—not captures.

Among water birds, a family of Loons, not mentioned for the region by Professor Eaton, was being reared on Elk Lake. A family of American Mergansers was also seen there. The Solitary Sandpiper was seen along

the Ausable River, between St. Huberts and Keene Valley, on several occasions, but for the first time on August 2.

A Bald Eagle, apparently in full plumage, was seen soaring over Elk Lake, July 15; over the houses at St. Huberts, July 19, and over the north fork of the Boquette River near Chapel Pond Road, July 25. On each occasion it disappeared in the direction of the Marcy range. It had been seen several times at Elk Lake, and when it flew low, uttering its scream at St. Huberts, guns were brought out but the bird was not shot. Among Owls, the Barred Owl, and, it is believed, the Great Horned Owl were heard at night. An individual of the latter species was trapped by Mr. Hale at St. Huberts some years ago. Near the base of Giant Mountain, in fairly open woods, and about one hundred feet from the trail, a Saw-whet Owl was spied sleeping on a branch about five feet above the ground. From three sides we closed in upon it and studied it. Crackling underfoot awakened it and when within a yard of it, it flew to a nearby tree and then into the woods.

The Black-billed Cuckoo was seen three times near the road at St. Huberts. It was reported that a Pileated Woodpecker had been seen and heard in the notch between Noonmark and Round Mountains, but on three trips to that region we were unable to get a record of the bird. Blue-headed Vireos were almost common at the lower altitudes, especially about the houses. We saw individuals of various ages daily. This duplicated our experience of three years before, as did the prevalence and general distribution of the Redstart. A record of which we are confident, yet which was quite unexpected is that of the Bay-breasted Warbler. The individual identified was seen along Deer Brook on the slope of Snow Mountain at an altitude of less than 2000 feet.¹ An adult male was perched on a low branch singing when we came upon him. The song was totally new to us. The three of us studied him intently with glasses for several minutes while he seemed unaware of our presence. After this he retired to higher parts of the trees and moved about. We kept him in view for about fifteen minutes, after which we lost him. This was on July 11. We were not able to find him again after that day. The White-breasted Nuthatch, which was not found by Professor Eaton's party in Essex County, was almost as abundant in the St. Huberts region as its Red-breasted relative. Many times we saw adults feeding young. On July 29, there were six individuals in view at once on the trees in front of the house. Others were seen on the lower sections of mountain trails. This also duplicated our experience of 1923. A pair of Bicknell's Thrushes was encountered on the Marcy trail at an elevation of about 4000 feet. From their anger and their boldness we judged that we were near the nest, but a search did not reveal it. An individual of this species was found singing near the top of Giant Mountain on our previous trip.

Certain birds were noticeable for their absence or scarcity. Duck

¹ See also p. 111.

Hawks which had been found by Professor Eaton on Mount Colvin, and observed by us in 1923, had not been seen for some time. We saw no Hummingbird nearer than Lake Champlain, although one was said to frequent a certain garden nearby. Until the July 30, our only records of the Blue Jay, visual or aural, were taken at Elk Lake. On this date and after I saw three on the Keene Valley Road, all of which were silent. As in 1923, only one Scarlet Tanager was found. Although we were constantly on the lookout we found no trace of the Water-Thrush. The Veery which has been so abundant previously in St. Huberts seemed to have diminished appreciably in numbers.

We observed 85 species in the region.—EDWARD WEYL, 6506 Lincoln Drive, Philadelphia, Pa.

Notes from South Carolina.—On April 17, 1926, as I was motoring from Charleston, S. C., to Walterboro, crossing the long bridge over the Edisto River, a large Blackbird was also crossing the river from the opposite direction. It passed quite close to me, in bright sunshine, and I was amazed to see a male Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*), in full breeding plumage, with brilliant yellow head and neck and the conspicuous white markings on the wings. I had seen thousands of them in the West, and could not be mistaken. My wife was with me and confirmed the "diagnosis." Mr. Arthur T. Wayne, in his book, 'Birds of South Carolina,' quotes two previous records for the state.

On another trip the preceding year, April 28, 1925, driving from Charleston, to Summerville, about nineteen miles out we crossed a causeway where the waters of Goose Creek are dammed up, making quite a pond. A considerable number of Ducks were scattered about on this water feeding, accompanied by a few Coots, Florida Gallinules and Pied-billed Grebes. Some of the Ducks were within twenty-five yards of me, and with the naked eye I could clearly see that they were Gadwalls. However, I stopped the car and for half an hour studied them with my eight-power binoculars.

There were seventy-four Ducks in the pond, and every one was certainly a Gadwall. Hitherto this species has been considered a rarity in the state, as Mr. Wayne's book gives but four records. But Mr. Alexander Sprunt, Jr., of the Charleston Museum, has found that considerable numbers of them have recently been shot during the hunting season on certain rice plantations near the coast. It is probable that the species may be found locally from fall to spring as a regular visitor.

The Starling is increasing rapidly and breeding in South Carolina. I have spent the winter and spring now in the state for the past three years. In 1924, I did not notice any of them. In 1925, I saw flocks in Greenville in February, saw young fed in Cheraw on May 17, and also knew of their breeding in Anderson. In January, 1926, they had invaded the grounds of the State capitol at Columbia in large flocks. I saw flocks in February at Sumter, and in April and May noted them, evidently breeding, at Rock

Hill, Cheraw and Darlington. On the trip back to Connecticut, driving via the Shenandoah Valley route across western Virginia, West Virginia and Pennsylvania, the middle of May, the Starling seemed to be one of the commonest species, constantly in evidence, carrying food for young.—HERBERT K. JOB, *West Haven, Conn.*

Florida Notes.—The hurricane of July 26 and 27, 1926, on the east coast of Florida was very likely responsible for the occurrence of several Sooty Terns seen on the overflowed salt marshes and the Indian River bordering Merritts Island, Brevard County, Florida. On July 29, I saw two Sooty Terns flying over the flooded marshes in company with two Black Terns and several Least Terns, and also observed two more Sooty Terns while crossing the bridge over the river.

While returning home later in the afternoon I saw a lone Black Tern flying over the St. Johns on the boundry line of Orange and Brevard counties.

On September 16, 17 and 18, 1926, south Florida was hit by another severe hurricane, in fact the worst that ever struck the state and on September 19, I observed four Man-o'-war-birds flying over a large lake in the Western part of Orange County. They were flying together as if in search of food but none were seen to secure anything from the water. They sailed around overhead getting farther and farther away until lost to sight. I have lived in the county for thirty-four years and these are the first I ever saw inland. About ten years ago, I was with Arthur H. Howell of the Biological Survey when we secured a specimen at Florida City, Dade County, and I am acquainted with the species and could not have been mistaken.

Once and only once years ago, did I see Brown Pelicans on fresh water lakes inland and this was after or during a tropical storm that lasted three days in October, 1910. The storm lasted from October 16 to 19; and did much damage. The Pelicans remained on one of the lakes in Orlando, Orange Co., for several days and then disappeared.—DONALD J. NICHOLSON, *Orlando, Florida.*

Three Rare Birds for Northern Michigan.—On September 26, 1926, Dr. Christofferson, my associate in bird work, and myself were observing some Horned Larks (*Otocoris alpestris alpestris*), Titlarks (*Anthus rubescens*) and Lapland Longspurs (*Calcarius lapponicus lapponicus*) in plowed fields some two miles and a half back from the river, when a flock of sixteen birds circled around and settled down near us. On investigation, they proved to be Golden Plovers (*Charadrius dominicus dominicus*). The Doctor and I have been combing this territory very thoroughly for twelve years and this is the first time we have ever found the Golden Plover. The next Sunday we visited the same place, and found Horned Larks, Titlarks and Lapland Longspurs, but the Golden Plovers were gone. A farmer we talked to said he had seen them a couple of days before and that they had been around for about a week.

On returning to the house we found a couple of White-throated Sparrows (*Zonotrichia albicollis*) and a Harris's Sparrow (*Zonotrichia querula*) in one of my traps. I banded the Harris's Sparrow and was going to release it, but after thinking it over we concluded to collect it. We sent it to Norman A. Wood for the University Museum at Ann Arbor, Mich. Mr. Wood wrote me it was the fourth authentic record of the Harris's Sparrow for Michigan and the first Michigan specimen they had received. One of the other three was shot here in 1900 and is in our High School Museum. The Doctor and I have seen it on three previous occasions—October 13, 1918, two; May 21 and May 24, 1925, one each day.

On April 29, 1926, Dr. Christofferson saw a Hawk Owl (*Surnia ulula caparoch*), September 27, 1926, one flew aboard the Str. Jos. S. Morrow in Lake Superior some 65 miles from shore, between Manitou Island, off Keweenaw Point, Mich., and Whitefish Point, in Chippewa Co. The bird was left at the Locks for the Doctor, who banded it, photographed it, and then released it. October 14, 1926, a neighbor telephoned me to the office that there was a large bird, either a Hawk or an Owl, back of my house. On investigating it proved to be a Hawk Owl. April 29 is a very late date and September 27 a very early date for this Owl to be seen in this latitude. I would not be surprised if they were pretty close to record dates.

This has been an unusual year. Spring was very late and cold weather set in early. The Geese were held up here in the spring for a long time, the last of them leaving May 23 and they are already (October 15) coming down which is unusually early. These weather conditions probably account for these unusual Hawk Owl dates.—M. J. MAGEE, *Sault Ste. Marie, Mich.*

Notes from Michigan.—The following notes relating to observations made in Michigan may be of interest:

Larus franklinii. FRANKLIN'S GULL.—June 11, 1922, on the shore of Lake Michigan at Ottawa Beach, Ottawa County, I saw a single bird at rest on the sands together with a number of Herring and Ring-billed Gulls. This small, black-headed Gull with bright red bill was notably conspicuous in this mixed company. Dr. Barrows, in 'Michigan Bird Life,' says there is no unquestionable record for the state.

Clangula americana. GOLDEN-EYE.—July 22, 1920, on Lake Mitchell, Wexford County, I saw a female with two half-grown young. Both ducklings showed the white cheek spots of the adult male. The birds were observed from a row-boat at little more than oar's length, the female approaching fearlessly in an effort to protect the flightless young. Dr. Barrows says that it does not spend the summer within our limits.

Buteo platypterus. BROAD-WINGED HAWK.—May 15, 1926, in Newaygo County, I found a nest of this species which contained two eggs. These being removed the bird laid two more in the same nest. Thereafter the birds were observed in attendance upon the young. The note alone

would have served to identify the species. Besides the "pewee" note, described by writers, there was heard a louder, more resonant note which may be suggested by likening it to the minified honk of a Goose. Dr. Barrows says, evidently referring to the southern part of the state, that reliable records of nesting are not very numerous.

Protonotaria citra. PROTHONOTARY WARBLER.—May 25, 1922, at Nunica, Ottawa County, a nest with five eggs. The birds were seen again in the same locality, May 13, 1923. On June 20, 1926, I saw a single bird in a wooded swamp in Newaygo County. The latter observation would seem to be the northernmost record for the state.

Nannus hiemalis. WINTER WREN.—July 30, 1920, in Wexford County, I saw a fledgling, fairly well able to fly, attended by the parent birds.

Regulus s. satrapa. GOLDEN-CROWNED KINGLET.—In July, 1920, in Wexford County this bird was observed and frequently heard singing in deep hemlock woods.—EDWARD R. FORD, 317 Washington St., Grand Rapids, Mich.

Relation of Water Level to Bird Nesting Sites in Florida.—The Western half of Wakulla County, Florida, and a large part of neighboring counties, are flat and sandy, with innumerable shallow depressions averaging perhaps an acre or two in extent and a foot or so in depth scattered over the country at the rate of something like one to every fifty acres or a dozen to the square mile. These hold water in the rainy season (roughly June to September), but are apt to be dry in early summer.

The greater part of the area was originally covered with park-like open forests of long-leaf pine, a type of vegetation known in Florida as flatwoods; but the best timber has all been cut out, and the remainder is being worked for turpentine. The shallow depressions nearly always contain a dense growth of evergreen shrubs about ten feet tall, mostly of two species (*Cyrilla parvifolia* and *Cliftonia monophylla*) belonging to the family Cyrillaceae, and known throughout their range as "tyty" (also spelled titi and tighteye). There may be in addition scattered trees of cypress (*Taxodium imbricarium*), bay (*Magnolia glauca*), slash pine (*Pinus Elliottii*), black pine (*Pinus serotina*), or black gum (*Nyssa biflora*), and a few smaller shrubs and vines. These evergreen thickets on perpetually saturated soil are known in Georgia and Florida as bays (occasionally bay-galls), probably on account of the frequent occurrence of bay trees; and they are very similar to the "pocosins" of eastern North Carolina. On account of the sterile soil this region is hardly one percent cultivated, and the population is very sparse¹.

In June, 1920, the writer, with one companion, made a two-days' tour of exploration on foot through the wilds of western Wakulla County. On the afternoon of the 13th, at a point in the flatwoods about twelve

¹ For a more complete description of the region see Ann. Rep. Fla. Geol. Surv. 6: 247-253. 1914. The environmental requirements of bays are mentioned briefly on page 203 of the same volume.

miles west of Arran (which is the nearest railroad station to the county-seat) and probably three miles from the nearest house, we noticed a considerable number of water birds flying around a tiny bay of average size. This aroused our curiosity, and we soon pushed into the center of the bay to see what the attraction was for the birds. We found that particular bay to differ from most others in having the water too deep in the middle for any trees or shrubs to grow, leaving an open space perhaps 50 by 100 feet, which could not be seen from outside, on account of the density of the shrubbery. The water was then about knee-deep in the middle, and at least a few inches deep around the bases of the nearest *Cyrilla* bushes. And as that was just about at the beginning of the rainy season, the depth of the water probably increased as summer advanced.

Birds to the number of several hundred were flying overhead or sitting on the bushes, and many of them had nests with half-grown young. There seemed to be four or five species represented, but with our limited knowledge of ornithology the only one we could identify with certainty, was the White Ibis (*Guara alba*). The others were probably mostly Herons.

The presence of nesting birds in this one bay and not in any other near by was evidently due mostly to the fact that it was the only one with enough water in it to surround the bases of the bushes and protect them from animals which might otherwise have climbed up and robbed the nests. The water (which was covered with some sort of unicellular alga) may also have contained frogs if not fish, and thus contributed to the food supply.

Six years elapsed before another opportunity came to visit the place. On June 21, 1926, I went to it by automobile with Messrs. H. L. Stoddard and Wallace Grange of the U. S. Biological Survey, who were working in the southern edge of Georgia and adjacent parts of Florida.

We found the place without much trouble, and it was undisturbed, but there was not a bird of any kind in it. The reason was immediately apparent. The year 1925 was drier than usual in this part of Florida (and in most other southern states), and the precipitation had been deficient in the first half of 1926 also. In the middle of the bay which had formerly sheltered such a large colony of birds the water was only a few inches deep, and the bushes were no longer protected from invasion by land animals. The algal scum of former years had completely disappeared, and the water was filled pretty well with *Juncus repens* and *Sphagnum macrophyllum*, which are fairly common in such places. Careful search revealed the remains of a few nests (made of twigs), but the birds may have been gone three or four years. Whether the low stage of the water reduced their food supply, or they realized that it was too low for protection, or they were actually driven away by their natural enemies (or by hunters), we may never know.—ROLAND M. HARPER. *State Geological Survey, Tallahassee, Fla.*

Additional Notes on the Birds of Eastern Kentucky.—My study of the arborescent flora and the collection of botanical specimens of eastern Kentucky, has continued for a week or ten days, each spring and fall during the past four years. While little time was spent in looking for birds, all identified were carefully recorded and those not mentioned in my article in 'The Auk' for January, 1922, and under "General Notes" for January, 1923, are now noted. Also additional dates and stations for the Warblers are included.

Colinus virginianus virginianus. BOB-WHITE.—Two were noted in May, 1923, Boyd Co. with three the same month, 1926, in Montgomery Co.

Buteo borealis borealis. RED-TAILED HAWK.—In May, 1925, Bath Co. *Coccyzus americanus americanus*. YELLOW-BILLED CUCKOO.—Whitley Co., May 10, 1925. This is the only bird of this species I noted in eastern Kentucky, although several Black-billed Cuckoos were seen.

Phloeotomus pileatus abieticola. NORTHERN PILEATED WOODPECKER.—I was very fortunate to see one of these birds fly across an open valley from one wooded hill to another near Rockholds, Whitley Co., having it under observation with my field glasses in its flight. As this is in the foot hills of the Alleghanies I assume that it was the northern subspecies.

Chondestes grammacus grammacus. LARK SPARROW.—While crossing open fields near Corbin, Whitley Co., I was surprised to see three Sparrows unlike any I had ever seen which were easily identified as this species; Their markings were very distinctive and I followed them around the field noting the chestnut and buffy-white striped head, the blackish spot in the center of the chest and the white-edged tail. It was an unexpected pleasure to find these prairie birds so near the mountains of Kentucky although the rolling country, cleared and given to pastures supplied their usual habitat.

Piranga rubra rubra. SUMMER TANAGER.—Bath Co. near Olympia with its wooded and brushy rolling country, little cleared and off the main traveled roads, has a wonderful bird population and would repay careful study. Summer Tanagers were noted there in May during 1923, 1925 and 1926.

Dendroica aestiva aestiva. YELLOW WARBLER.—One May 27, 1924, Bell Co., and two May 10, 1925, Whitley Co.

Dendroica coronata. MYRTLE WARBLER.—October 7, 1924 in Harlan Co., and May 5, 1925, in Bath Co.

Dendroica magnolia. MAGNOLIA WARBLER.—May 9, September 25 and 29, 1925, in Whitley Co.

Dendroica castanea. BAY-BREASTED WARBLER.—Two September 23, 1925, in Bath Co.

Dendroica striata. BLACK-POLL WARBLER.—May 10, 1925, Whitley Co.

Dendroica fusca. BLACKBURNIAN WARBLER.—May 7, 1925, Whitley Co., and September 23, 1925, Bath Co.

Dendroica virens. BLACK-THROATED GREEN WARBLER.—September 23, 1925, in Bath Co.

Dendroica discolor. PRAIRIE WARBLER.—September 23, 1925, Bath Co.

Seiurus aurocapillus. OVEN-BIRD.—May 23, 1923, Bath Co.

Geothlypis trichas trichas. MARYLAND YELLOW-THROAT.—September 29, 1925, Whitley Co., and May 24, 1926, Montgomery Co.

Wilsonia citrina. HOODED WARBLER.—May 8, 1925, Whitley Co.

Setophaga ruticilla. REDSTART.—May 26 and 27, 1924, Bell Co., May 28, 1924, Harlan Co. and May 10, 1925, Whitley Co.

Poliophtila caerulea caerulea. BLUE-GRAY GNATCATCHER.—Two on May 23, 1923, Bath Co., one May 22, 1924, Lawrence Co., and two May 10, 1925, in Whitley Co.—R. E. HORSEY, Highland Park, Reservoir Ave., Rochester, N. Y.

Notes on Porto Rican Birds.—I read with much interest Mr. Danforth's article in 'The Auk' for October, 1925, on certain species of Porto Rican birds. Some of these species have come under my observation during my eight years on the Island. My work allows me time for bird study only when other things are not pressing which accounts for two of my records falling on January 6, an important holiday here.

Mr. Danforth's observations of the Ruddy Duck are similar to mine. I have seen it practically every month of the year and have always found the male in high plumage. It is the commonest Duck on the small bodies of fresh water between Guayama and Guanica Lagoon.

On January 6, 1923, two Hawks were observed for some time hunting in a large pasture north of Central Aguirre. They had the characteristic flight and plumage of Marsh Hawks, though appearing to be immature birds. Mr. Danforth's observations of this species makes me more certain of my identification.

On January 6, 1921, I found a female and two male Maryland Yellow-throats in the swampy land along the seashore about two miles west of Central Aguirre. They were not at all wild and I watched them for some time. Not far from the same location I saw a male Yellow-throat on January 1, 1923.

On September 9 and 10, 1921, we had much rain and exceedingly heavy winds from the southeast due to a hurricane passing to the south of us. During the months following, shore birds were more abundant on the south coast than at any other time from 1918 to date. On September 10 I noted an Upland Plover in a flock of shore birds not far from Guayama; and on September 13 I found a flock of fifteen Upland Plovers in a wet pasture just east of Santa Isabel. A specimen which I collected from this flock is now in the U. S. National Museum, Washington, D. C. This is the second record of this species for Porto Rico, the first being in 1882.

Regarding the abundance of shore birds after the storm of 1921, it seems a possible hypothesis that the fall migration of these species from the north drops relatively few individuals in Porto Rico when storms do not interfere with a flight to South America, and that Upland Plovers never stop here unless forced down by hurricanes.—F. A. POTTS, *Fortuna, Porto Rico*.

On the Origin of Flight.—1. There exists dogmatism in science as well as in art or religion. Life is assumed to have originated at one epoch, and ontogeny is graphically represented as a tree. There is as much argument in favor of a theory of life having begun at various periods and having developed along parallel lines. Thus flight is dogmatically assumed to have been preceded by soaring.

2. Flight is not a necessary attribute of birds. The Ostrich, Apteryx, Penguin and some others do not fly. The power of flight is easily lost or repressed where not needed. There is no reason to assume that all flightless birds once flew unless paleontological records show that they did.

3. True flight is not confined to birds any more than are birds necessarily flyers. Bats are true flyers.

4. Today a soaring flight is paralleled in different types of life. Some species of squid, fish, lizard, marsupial and squirrel soar. There is no evidence that a flight structure is being developed in any of the above.

5. The various theories of the origin of flight all assume a soaring beginning. The Archaeopteryx and the evidence of four wings in the Pigeon are cited.

6. Some of our diving birds use their wings and not their feet while swimming under water.

7. Many sea birds beat the water with wings and feet before being able to rise. The Penguin uses its front appendages under water and when hurrying on the surface, beats it with these flippers.

8. It is submitted that flight may have started in some cases from a prototype similar to the Penguin, as well as from the two and four winged soarers. Thus a pre-flight bird that progressed similarly to the present Penguin by flopping along the surface of the water would develop pectoral muscles and be on the road to developing true flight. This might appear more obvious than a soarer developing flight structure or pectoral muscles, since none of our present soarers has developed any such structure. Dissection of a flying-fish is convincing proof that it does not flap its fins, having no muscles for such work.

9. An interesting homology may be pointed out in the case of man first mastering the art of flight before the art of soaring.—CHAPMAN GRANT, *Major, Infantry, U. S. A.*

The Copper Plates of the Folio Edition of Audubon's 'Birds of America.'—In my article published in 'The Auk' (Vol. XXV, p. 401, 1908) I included in the list of those which had been preserved, the Snow

Goose⁷ (CCCLXXXI) and the Great White Heron (CCLXXXI) then in possession of Miss M. R. Audubon of Salem, N. Y. These plates have now been presented to the American Museum of Natural History, New York City. My records now show 41 plates extant, 25 of which are in Museums, Universities and Public Libraries.—RUTHVEN DEANE, *Chicago, Ill.*

RECENT LITERATURE.

Wetmore's 'The Migrations of Birds.'—For the present reviewer the problem of the migration of birds has always held a peculiar fascination and his first paper presented before the A. O. U. in 1888 dealt with methods for the recording of migration data, while the recurrent arrival of the birds in spring has seemed to him, as doubtless to all field students, one of the most impressive of nature's phenomena.

Consequently he welcomes the appearance of any new contribution to the subject especially one containing so many original observations and written in such an entertaining style as Dr. Wetmore's recent volume entitled 'The Migrations of Birds.'

Looking back one is impressed by the diverse views and opinions of writers on bird migration in the past and the varied reaction to them. In 1886 we remember the appearance of Mr. William Brewster's classic pamphlet on 'Bird Migration,' forming Memoir No. 1 of the Nuttall Ornithological Club, in which the mystery of migration is explained on the ground that birds make use of river valleys, coast lines and other landmarks in shaping their course and become trained by experience, the younger birds following the lead of the adults, and Mr. Brewster's suggestion that "bearing these facts in mind, the manner in which birds find their way seems very simple," was very generally accepted.

Then came the appearance of Gätke's famous volume on bird migration at Heligoland with the lengthy reviews by Drs. Allen and Coues. Gätke's summing up of the question was as follows: "I have been guided by the conviction, rendered firmer with increasing knowledge of the phenomena, that what at present has been ascertained in reference to the migration of birds furnishes us with no clue by the aid of which we are enabled to penetrate the depths of this wondrous mystery." To this Dr. J. A. Allen replied¹ that "in reality great light has been thrown upon the cause of migration," etc. by the researches of the past ten years but "the love of mystery is so inherent in the popular mind and the habit of viewing the migration of birds as the 'mystery of mysteries' is so firmly fixed that it is perhaps not strange that a reasonable explanation of all the principal phenomena of the subject should be received as unwelcome iconoclasm."

Dr. Coues, taking as usual the other side, praises Gätke to the skies and writes² "There is no Heligoland but Heligoland and Gätke is its prophet." "He smashes our idols right and left; he leaves us helpless for lack of gods to supplicate, for he sets up none of his own. . . . Flight remains for him

¹ The Migrations of Birds. By Alexander Wetmore, Assistant Secretary, Smithsonian Institution, Fellow, American Ornithologists' Union, Cambridge. Harvard University Press, 1926, pp. i-viii + 1-217, figs. 1-7. Price \$2.50

² Auk, 1896 p. 137.

³ Auk, 1895, p. 322.

an 'insoluble problem' and migration a 'wondrous mystery,' . . . Gätke knows too much about these things for our peace of mind. He files a great caveat that we shall do well to heed. Isepipteses and magnetic meridians, coast lines and river channels, food supply and sex impulses, hunger and love, homing instinct and inherited or acquired memory, thermometer, barometer and hygrometer, may all be factors in the problem, good as far as they function, but none of them, and not all such together can satisfy the whole equation. . . . His conclusion concerning 'the way of the Eagle in the air' is identical with that ascribed to the old Hebrew ornithologist who had a great reputation for sagacity in spite of his complicated connubialities, and may be aspired to by some of the present gentile generation."

Later we recall the contribution of Capt. Reynaud of the French army presented at the A. O. U. meeting of 1899, by Dr. Chapman¹ upon the homing instinct of Carrier Pigeons in which orientation, the sense of direction, comes to the fore as the guiding influence and many then thought the problem finally solved. Later came the emphasis on hormones and the physiological impulse to migration and an admirable review of the subject by Dr. John C. Phillips,² which closes with the statement: "Whether it [the periodical recurrence of migration] is even worth while discussing in the light of our scant knowledge of instinctive actions and their causes, is doubtful. With the mass of facts being brought constantly to light relative to bird travels we are perhaps a little too apt to lose sight of some of the old time mystery of the subject. The modern tendency seems to be to sniff at the word mystery as applied to any phenomenon of bird migration, but mystery there certainly is and mystery there will always be as long as the great problems remain unsolved."

In view of all these reactions to the evidence and theories of the past it is interesting to learn the present day attitude of broad minded students of the subject, and two works prepared entirely independently and appearing almost simultaneously furnish us with the latest conclusions. One by Dr. J. Landsborough Thomson has already been noticed in these columns and we now have Dr. Wetmore's volume before us.

The two differ radically in character, Thomson basing his review upon an exhaustive study of the literature, coupled of course with a certain amount of personal observation; while Wetmore presents almost entirely his own observations as a basis for his discussion and refers as little as possible to the work of others. Nevertheless their conclusions agree to an interesting extent. According to Thomson "The purposes served by migration do not in themselves explain its causation. Migration is assumed to be an innate racial custom and only speculation is possible as to its origin. All theories which seek to explain the origin of migration are beset with difficulties and complexities nor do these theories explain

¹ Bird Lore, II, p. 101.

² The Auk 1913, p. 191.

the nature or the manner of its inheritance. Not one cause but a complex series of causes may have operated."

Wetmore says: "It appears that the beginning of the present instinct for migration and the habit of its continuance are so ancient that they are wholly obscure and may be interpreted only in terms of present conditions. The underlying cause is certainly complex and is due to multiple factors. We have in the past fifty years cleared away many uncertainties regarding it but must look to the future to explain definitely the basic reasons for the instinct of migration and the method of orientation followed in pursuing flight over courses which to young individuals at least are unknown."

Therefore we, it seems, may continue to enjoy "the love of mystery" to which Dr. Allen referred and wonder whether the curtain which shrouds the ancient origin of migration and the development of animal instinct will ever be drawn aside.

Dr. Wetmore's little volume is virtually the printing of a course of lectures delivered before the Lowell Institute of Boston in the autumn of 1925. Intended for a popular audience it is prepared in a style that is extremely interesting and readable while it, at the same time, presents all of the technical aspects of the subject. It is moreover essentially an American product as almost all of the persons whose observations are quoted are Americans and many of the observations have been made in the United States. By far the greater number of incidents quoted in illustration are from the author's experience and as he has travelled widely in carrying on his ornithological studies—to Alaska, Hawaii, Argentina, the West Indies and remote sections of the United States, he has had exceptional opportunities for observation. The pages therefore teem with original matter, which is refreshing after the somewhat hackneyed examples that we are wont to find quoted in the literature of bird migration.

His six chapters treat of (I) history and theories, (II) nocturnal and diurnal migration, weather, speed and sense of direction, (III) regularity of migration (IV) altitudinal migration, distance travelled and mortality, (V) lines of migratory flight, (VI) migration in special groups of birds.

The book at every page is so full of meat that it is difficult to pick out special topics for comment and it should be read in its entirety. It is by all odds the best and most thorough treatise on migration that has been published in America and the most readable and entertaining account with which we are acquainted.—W.S.

Taverner's 'Birds of Western Canada.'¹—One of the pleasant surprises of the recent Ottawa meeting of the A. O. U. was the presentation

¹ *Birds of Western Canada.* By P. A. Taverner. Canada. Department of Mines, Victoria Memorial Museum. Museum Bulletin No. 41. Biological Series, No. 10, September 15, 1926. Ottawa. F. A. Acland, Printer to the King's Most Excellent Majesty. 1926. pp. 1-380, pls. I-LXXXIV, figs. 1-315. Price 75 cents paper cover, \$1.00 cloth.

to each attending member of a copy of Mr. Taverner's 'Birds of Western Canada,' fresh from the press, with the compliments of the Minister of Mines. The volume is not only a valued memento of the meeting but an important contribution to the ornithology of North America. In plan it follows very closely the author's 'Birds of Eastern Canada,' reviewed in 'The Auk' for 1920, p. 147 and 1922, p. 582; a large part of the introduction, the key and some of the descriptions being very properly reprinted, almost verbatim, from that work. Notable improvements are the introduction of many line cuts of heads, feet wings etc., with some very useful silhouettes of Hawks and other birds of the air as they appear from below, following the plan of Seton's paper in 'The Auk' for 1897, p. 395.

The color plates, which are scattered through the text instead of being massed at the end of the volume, are from paintings by Allan Brooks and F. C. Hennesy, arranged as before two to a page. Those by Hennesy are from the east Canada work while those by Brooks are new with the present publication and represent, usually, exclusively western species. Altogether 167 species are figured.

Mr. Taverner is to be congratulated upon doing for west Canada what he had already done for the eastern provinces and doing it still better. The work will enable western students to familiarize themselves with the bird life of their region and will result in the development of many an ornithologist for the future. Furthermore it provides ornithologists in general with an admirable work of reference on western birds while it contains much general information of importance from the pen of the author. Under the birds of prey, for instance, we find this pertinent contribution to the Hawk problem: "Raptorial birds, like human beings, tend to subsist on that which is first to hand, and a generalization based on one set of conditions will not always hold good for others. It is also a natural psychological fact that we ourselves feel a definitely known, concrete loss, more keenly than we do a much greater one that we have more or less unwittingly escaped. The loss of a single partly grown chicken to Hawks is more keenly realized than the absence of some hundreds of gophers that never intruded themselves upon our consciousness. The one fact is taken as a calamity, the other as a matter of course. It is such warping of judgment that we must particularly guard against in estimating the real value of our Birds of Prey." An excellent and timely warning when every private game preserve in the South is paying well for the slaughter of every Hawk that appears on the premises because they kill a few Quail which the proprietors wish to kill themselves, and incidently by taking away nature's check they are opening the way to a pest of rodents in the future! There are many other similar discussions. Under the Cowbird the author argues that every Cowbird raised to maturity means the destruction of a nestful of other birds and even though the economic value of the two species be the same "the substitution cannot be looked upon with equanimity." It occurs to us that the widespread hostility to the Cowbird is a curious example of psychology

too. Figures show that on the average not more than one young bird in a nestful reaches maturity and a single Cowbird is of probably greater economic value than a single Warbler owing to its greater size. Therefore more than ever is the hostility against the Cowbird a matter of sentiment and not of economy.

Mr. Taverner, as in his previous works, strives to suppress the subspecies as much as possible and we find in the brief mention of the subspecies which is appended to the account of the species, again and again such statements as: "the distinction between the two forms is too fine for general recognition" or "the differences are so slight as to be of little popular interest." We quite agree with the advisability of suppressing the subspecies in such a work as Mr. Taverner has written, in the majority of cases, because as he says they are too finely drawn to concern the general public. But we must not lose sight of the fact that subspecies are not based upon degree of difference but upon the criterion of intergradation and that there are many subspecies quite as distinct as many species. Indeed some of the subspecies of Song Sparrows are far more easily distinguished than are the small Flycatchers to which full recognition is accorded. If it is a question of which forms can be recognized by the general student and which cannot, we are going on the degree of difference schedule which has nothing to do with subspecies, and it would be far better to accord the most distinct forms of Song Sparrow, Horned Lark, Fox Sparrow, etc., their place in the list regardless of whether they write their names in two words or three. As a matter of fact that is exactly what is done in another popular book, Walters' 'Wild Birds in City Parks.' The general reader cares not a rap whether two forms intergrade or not but he wants all the birds that he can distinguish placed on his list.

This commentary is not intended as a criticism in any way of Mr. Taverner's excellent book but merely a suggestion of a "way out" of a difficult problem which confronts many authors who in their attempts at a solution appear to us to be confusing two very different propositions.—W. S.

Audubon's Delineations of American Scenery and Character.¹—

How many of our older ornithologists who were fortunate enough to have had access, in their youth, to a copy of 'Audubon' have pored by the hour over the "episodes" which the author inserted after every fifth bird biography of his first three volumes. In them he described many of his personal experiences as well as places that he had visited in his varied travels through the wildernesses of America.

Just where the term "episode" is applied to these sketches we are not

¹ Delineations of American Scenery and Character. By John James Audubon. With an introduction by Francis Hobart Herrick, Ph.D., Sc.D., Professor of Biology in Western Reserve University, Author of 'Audubon, the Naturalist: A History of His Life and Time.' G. A. Baker & Company. New York, 1926. pp. 1-xlix, 1-349. Price, \$4.50.

clear although that is the title by which they are most generally known. A search through the first volume of the 'Ornithological Biography' fails to find it used while the title page of the three volumes in which the sketches occur refers to them as "Delineations of American Scenery and Manners" which is different again from the title used by Prof. Herrick in the book now before us.

It has been a matter of general regret that many of our host of younger bird students have been unable to obtain a copy of the classic work of the great painter naturalist, as no recent edition has been published. Now however the need, so far as the episodes are concerned, has been met in the publication of fifty-nine of them—all but the one dealing with the feet of birds, in a separate volume edited by Prof. F. H. Herrick the well known authority on Auduboniana.

Besides the episodes or delineations there are reproduced the prefaces to the first and second volumes of the 'Ornithological Biography' and there is a biographical and historical preface by Prof. Herrick and an excellent reproduction of the Inman portrait of Audubon as a frontispiece.

The book is handsomely printed and attractively bound and the reading of the classic episodes will fire the enthusiasm of many a would-be naturalist and prove profitable reading for all who may be interested in the early history of America, though they should also read Prof. Herrick's remarks upon the inconsistencies of some of the episodes as set forth in his 'Life of Audubon.'—W. S.

Banfield's 'Last Leaves from Dunk Island.'—Many of our readers are familiar with the writings of the "Beachcomber" of Dunk Island—E. J. Banfield; with his twenty-five years sojourn on the little island, two and a half miles off the coast of Queensland, Australia, and with his death there in June, 1923, with no companion but his devoted wife.

His books recall in some respects the writings of Thoreau while his isolation from the world has been likened to the life of R. L. Stevenson. Three volumes were published during his life, 'The Confessions of a Beachcomber,' 'My Tropic Isle,' and 'Tropic Days' and now we have a number of short sketches, originally published in the 'Townsville (Australia) Bulletin', and some other manuscripts, issued in a posthumous volume under the title 'Last Leaves from Dunk Island,' with the sympathetic editorship of A. H. Chisholm, the well known Australian ornithologist, also a lover and chronicler of nature.

These sketches, thirty-two in number, cover a variety of subjects—the devastating cyclone of 1918, stories of the native blacks and numerous bird biographies treating of the Metallic Starling, Sunbirds, Swamp

¹ Last Leaves from Dunk Island. By E. J. Banfield. With Introduction by A. H. Chisholm, Australia, Angus Robertson, Ltd. 89 Castlereagh Street [Obtainable at the British Australian Bookstore, 51 High Holborn St., London E. C. 1] 1925, pp. i-xxvi + 1-232, and 34 illustrations. Price 12s. 6d.

Pheasant, Swiftlets, Nutmeg Pigeons, etc. All who love nature-lore will find this volume a most interesting and readable book, the unfamiliar birds, trees and plants of the Antipodes, of which we in America know all too little, adding a zest to the perusal. We owe a debt of gratitude to Mr. Chisholm for preserving these last papers of Banfield for posterity.—W. S.

Walter's 'Wild Birds in City Parks.'—This well known little book,¹ which has been helping beginners in bird study for over twenty-five years—comes out in another new and revised edition. The amount of information contained in the 100 odd pages of this brochure is astonishing and proves it to be a veritable *multum in parvo*. Besides the general list and the key there is a table of distribution and occurrence which helps in identification, and a table of arrivals for a period of seven years and one of frequency, both based upon observations in Lincoln Park, Chicago, which are important contributions to ornithology.

As we glance through the pages two suggestions occur to us. One is that when such closely related birds as the four small Flycatchers and Grinnell's Water-Thrush are given a place in the main list, the Carolina Chickadee might be accorded the same honor. Possibly it is the very suppression of this species in a book so widely used that has resulted in so many erroneous identifications of this species as the Black-cap in our more or less popular journals. Our other suggestion would be to include in the index, the names of birds in the supplementary list. We were under the impression that some important birds had been entirely omitted until we discovered that they simply had not been indexed.

We congratulate the authors upon the continued success of their little volume which will soon begin to instruct its second lineal generation of bird students!—W. S.

Todd on Neotropical Goldfinches.—Like all of Mr. Todd's monographs his review of the Neotropical Goldfinches² is a painstaking and thorough piece of work. Based on all the material that could be assembled—upwards of 1000 skins—and backed by a thorough study of the literature he has given us by far the most satisfactory account of this difficult group that has so far appeared.

As anyone who has had to do with these birds realizes, the range of individual, seasonal and age variation is so great that it often obscures the geographical variation upon which our systematic studies must be

¹ Wild Birds in City Parks. Being hints on identifying 203 birds, prepared primarily for the spring migration in Lincoln Park, Chicago, but adapted to other localities in northeastern United States and Canada. By Herbert Eugene Walter and Alice Hall Walter. Twelfth Edition, Revised. New York. The Macmillan Company, 1926. Price \$1.50.

² A Study of the Neotropical Finches of the Genus *Spinus*. By W. E. Clyde Todd. Annals of the Carnegie Museum, Vol. XVII, No. 1, 1926. Issued June 9, 1926. pp. 11–82.

based. Mr. Todd records seventeen species and nine additional subspecies of which *S. sanctaerucis* (p. 47) from Samarpata, Bolivia; *S. peruvianus paulus* (p. 51) from the Andes of southern Ecuador and northern Peru; *S. magellanicus tucumanus* (p. 65) from Santiago del Estero Argentina and *S. m. urubambinus* (p. 65) from Urubamba Valley, Peru, are described as new, while females have been examined which undoubtedly represent two additional forms though in the absence of male specimens Mr. Todd wisely refrains from naming them. Besides the systematic consideration of the group Mr. Todd's study has led him into the broader problems of geographic distribution. He calls especial attention to the discontinuous distribution of several of the species of South American Goldfinches which he considers indicates antiquity of origin and dispersal, and the occurrence of several species in the same area indicating that they have no immediate relationship but were differentiated before their ranges overlapped.

Spinus is thus on many counts a plastic genus adapting itself easily to changing environment and probably for that reason is the only Palearctic Finch genus to reach South America. The forms with the least black on the head our author regards as the most primitive, *S. xanthoptera* he considers a derivative of *Astragalinus psaltria* a species obviously of North American origin and upon this as well as other grounds he proposes to merge *Astragalinus* and *Spinus*, a conclusion reached independently by the A. O. U. Sub-committee on classification for the new Check-List.

Mr. Todd finds it very difficult to account for the presence of the various species of *Spinus* in South America on the basis of Asiatic derivation via the Behring Strait land bridge, and is inclined to favor a land bridge from the West Indies to the Mediterranean countries of Europe as proposed by Scharff, over which this genus, he thinks, must have come in several invasions.

Mr. Todd has prepared a notable systematic paper and his broader philosophical deductions are worthy of serious consideration, for there are other similar instances among South American birds which strongly support his contentions.—W. S.

The Australian Check-List.¹—In 'The Auk' for April, 1913, the present reviewer published a notice of the official 'Checklist' of the birds of Australia prepared by a committee of the Royal Australasian Ornithologists' Union and he has now before him the second edition of the same work. Of the seven members of the original committee but four are included among the fourteen who had to do with the preparation of the present list and two of these took part only in the earlier activities.

Our criticism of the first edition was mainly against the adoption of

¹ The Official Checklist of the Birds of Australia, Compiled by a Committee of the Royal Australasian Ornithologists' Union. Second and Revised Edition. With Appendix, Scientific Names—Notes and Pronunciation. By H. Wolstenholme, B.A., M. B. O. U., R. A. O. U. Wahroonga, Sydney. Published by the Royal Australasian Ornithologists' Union. 1926. pp. 1-x, + 1-212 with 1 map. Price 12 shillings 6 pence. [376 Flinders St., Melbourne.]

Gould's works as a starting point for Australian nomenclature and the failure to accept the International Zoological Code in the attempt to save "time honored names."—On these points the present committee has completely reversed the action of its predecessor adopting rigidly the principle of priority and accepting the International Code, a policy upon which we offer hearty congratulations.

This action has brought the specific nomenclature of the 'Checklist' and that of Mr. G. M. Mathews' works into accord, while the generic nomenclature is also virtually in agreement, since, while with admirable judgment the committee has adhered to the broader genera of old, it has entered Mr. Mathews' innumerable subdivisions as subgenera.

Another criticism in our former review was the failure of the original committee to properly grasp the character of a subspecies and the lack of any indication as to the disposition that had been made of the numerous subspecific names proposed in recent years. While the new 'Checklist' like its predecessor is strictly binomial and recognizes "species" only, it has in the interests of consistency eliminated some of the "species" of the first edition which have proven to be only geographical races, thereby reducing the total number from 751 to 707, and what is more important has entered all of the subspecies in the synonymy of their respective species listing them in the index so that the disposition of any one of them may easily be ascertained.

The new list therefore meets all of the criticisms that were directed against its predecessor and forms an excellent 'Checklist' of the *species* of Australian birds, which will be of the utmost value to Australian students as well as those of other countries and will fit in with the nomenclature of the more general works based as they all are upon the same principles of nomenclature.

We have but one objection, or better perhaps, suggestion, and that refers to the arrangement of the synonyms, a point to which we have repeatedly called attention in reviewing Mathews' 'Birds of Australia,' i. e., the intermingling of real synonyms and subspecific names. The 'Checklist' purports to list as synonyms all names used for a species or any part of it in publications on Australian birds, and we thus have side by side names that are absolute equivalents of the specific name, and names for several perfectly distinct geographical races (subspecies), with no possible means of distinguishing the "sheep from the goats."

Subspecies are of the utmost importance in studies of migration, distribution, the origin and development of faunas etc.—problems entirely apart from the purely systematic listing and cataloguing of eggs or skins, or the study of life histories, where we are ready to admit subspecies become a nuisance—and the progressive student of Australian ornithology will demand that the valid subspecies be worked out and their ranges given. Perhaps this is not feasible as yet, but it should at once be taken up seriously, as it will be one of the major requirements of the "third edition" of the 'Check-List' whenever that may appear.

We regret that the cost of publication has necessitated the use of many abbreviations in locality, ranges and references to standard works, but these will be easily mastered by those who constantly use the list.

An appendix by Mr. H. Wolstenholme contains an explanation of the binomial system, with notes on the origin of various names and a vocabulary of Latin and Greek words used in the construction of the technical names. Also an index of proper names with their origin marked and accented to indicate their correct pronunciation. An excellent outline map of Australia shows all the type localities, the railways, river systems and lines of average temperature.

The Committee has done an excellent piece of work and has placed Australian systematic ornithology on the same basis as that of the rest of the world.—W. S.

A Chinese Checklist.—Under the editorship of three well known writers on Chinese birds—N. Gist Gee, Lacey I. Moffett and G. D. Wilder there has appeared the first part of 'A Tentative List of Chinese Birds'¹ covering apparently all but the Passeres and enumerating 460 species as well as many subspecies which are numbered "a", "b", "c" etc. the "species" bearing the serial number.

Under each technical name is given a vernacular name in English and several Chinese names. Then comes the general distribution of the species printed in English and Chinese; the provinces of China in which it has been recorded; and the time of year. While the authority is given for each technical name there are no references whatever to publications.

"This list," say the authors, "does not claim to be complete. It is published in this imperfect form as a working basis for further study, in the hope that corrections and additions will be made until there shall result a satisfactory checklist of the birds of China." In spite of this modest statement the list seems to be an admirable piece of work, well printed and well prepared. With it and LaTouche's 'Handbook of the Birds of Eastern China' the student of Chinese birds is placed in a position to pursue his studies with an ease that could not have been expected a few years ago.

We congratulate the authors upon their admirable beginning of the 'Chinese Checklist' and wish them every success in their undertaking.—W. S.

Hachisuka on Egyptian Birds.—A handsome volume by M. Hachisuka has recently appeared, obviously dealing with the birds of Egypt, of which 455 species and subspecies are listed. With the exception of the scientific names, the bibliography and the index, the entire work is in Japanese, so that we are unable to comment upon its contents, but as the

¹ Bulletin of the Peking Society of Natural History. Technical Series, No. 1, part 1. A Tentative List of Chinese Birds, Part 1, from Colymbiformes through Coraciiformes. Compiled by N. Gist Gee, Peking, Lacey I. Moffett, Kiangyin, G. D. Wilder, Peking. 1926. pp. i-viii + 1-144.

late M. J. Nichol's list of Egyptian birds numbered 436 species we infer that this is a complete catalogue of the avifauna. There are numerous photographic illustrations in the text and four excellent colored plates from paintings by Grönvold, representing *Nectarinia metallica*, the races of *Galerida cristata*, *Pluvianus aegyptius* and *Rynchops flavirostris*.—W.S.

Hopkinson's 'Records of Birds Bred in Captivity.'¹—This well gotten-up book comprises three parts, (1) a list of species which have bred in confinement, (2) a list of hybrids bred in confinement and (3) a summary of the two lists with concurrent numbering making cross reference easy. As can be seen at once the work is of the greatest interest and importance to aviculturists whose highest aim is to successfully breed the species kept in their aviaries or grounds, and who are always anxious to know what has been done in this line by others. It is also a valuable book to those interested in hybridism and cross breeding.

The task of compilation has been great but appears to have been done thoroughly and with care and accuracy. No less than 816 species are recorded as having bred in captivity while there is an astonishing list of hybrids. Some of these are very interesting and some few very unlikely. But the author, while he has thought best to list every record published, has commented on all which are not fully authenticated. One example will show the thoroughness of this method. There is an alleged record of the breeding of an Australian Lyrebird and a Domestic Fowl published in the 'Avicultural Magazine,' the editor of which appends a note: "most extraordinary; we hope to hear more." Mr. Hopkinson adds: "I cannot find that more was heard and can only consider 'most extraordinary' too mild." We might suggest further that the "Lyre"-bird factor was the dominant one in the alleged hybrid!

Mr. Hopkinson deserves the thanks of all aviculturists for his careful compilation.—W. S.

Recent Papers by Grinnell.—In a critical review of the Gnatcatchers of Lower California² Dr. Joseph Grinnell finds two unnamed forms. *Poliophtila caerulea obscura*, heretofore used for the Blue Gray Gnatcatcher of the whole Pacific Slope, must be restricted to the bird of the Cape District of Lower California and the northern form, which is easily distinguishable, is named *P. c. amoenissima* (p. 494).

Similarly in the Black-tailed group the Cape form proves distinct and is named *P. melanura abbreviata* (p. 497) all of the Black-tailed forms proving to be subspecies and *P. m. margaritae* occurring on the mainland as well as on Santa Margarita Island.

¹ Records of Birds Bred in Captivity. By Emilius Hopkinson. H. F. and G. Witherby, 326 High Holborn, London, W. C. 1. 1926. pp. i-ix, 1-330. Price 15 shillings net.

² A critical inspection of the Gnatcatchers of the Californias. By Joseph Grinnell Proc. Calif. Acad. Sci. XV. No. 16, pp. 493-500, September 15, 1926.

In another paper² in conjunction with Harry S. Swarth the following new races are proposed: *Penthestes gambeli atratus* (p. 164); *Baeolophus inornatus affabilis* (p. 164) *Chamaea fasciata canicauda* (p. 169) all from the San Pedro Martir Mts., Lower California; *Psaltiriparus minimus melanurus* (p. 169) from San Jose, Lower California and *Baeolophus inornatus sequestratus* (p. 166) from Eagle Point, Oregon. The relationships of these and allied forms are fully discussed.—W. S.

Chapman on New Birds from South America.²—Dr. Chapman describes eight additional species and subspecies of Neotropical birds in this paper based upon collections received at the American Museum from its South American collectors.

These belong to the genera *Grallaria*, *Ochthoeca*, *Stigmatura*, *Spizitornis*, *Empidochanes* and *Myiochanes*.—W. S.

Nelson on New Mexican Birds.³—It is a pleasure to find Dr. Nelson returning once more to Mexican ornithology which some years ago was his principal interest. Of the two birds described as new in the present paper one, *Cerciscus ruber tamaulipensis* (p. 105) was collected by his assistant in former Mexican explorations, Major E. A. Goldman, on a recent trip to that country in March, 1926, at Alta Mira, Tamaulipas; while the other, *Craz globicera griscomi* (p. 106) from Cozumal Island, Yucatan, was obtained on one of their early joint explorations in 1901.—W. S.

Bangs and Peters on a New *Berneria* from Madagascar.⁴—A small form of *B. madagascariensis* from the eastern part of the island which they name *B. m. inceleber* (p. 43).—W. S.

Kirke Swann's 'Monograph of the Birds of Prey.'—Part VI of this notable work,⁵ the first since the death of the author, appears with the notice that it will be completed from Mr. Swann's manuscripts under the editorship and part authorship of a leading authority. This number continues the treatment of the genus *Buteo* including our American *B. borealis*, of which all of the described races are recognized, some of them in the face of rather severe objection especially *lucasanus* while *krideri* and *harlani* have been considered by several authors as albinistic and melanistic forms, with no definite geographic range. Three colored

² New subspecies of Birds (*Penthestes*, *Baeolophus*, *Psaltiriparus*, *Chamaea*) from the Pacific Coast of North America. By Joseph Grinnell and Harry S. Swarth. Univ. of Calif. Publ. in Zool. 30, No. 5, pp. 163-175. September 16, 1926.

³ Descriptions of New Birds from Bolivia, Peru, Ecuador and Brazil. American Museum Novitates. No. 231. October 16, 1926. pp. 1-7.

⁴ Two New Birds from Mexico. By E. W. Nelson, Proc. Biol. Soc. Washington. 39, pp. 105-108. August 25, 1926.

⁵ Proc. New Eng. Zool. Club, IX, pp. 43-44, July 21, 1926.

⁶ A Monograph of the Birds of Prey. By H. Kirke Swann. Wheldon and Wesley, Ltd. London. Part VI. September, 1926. Price 26 shillings net per Part.

plates represent *Urubitornis solitarius* and *Harpyhaliaetus*; *Aquila rapax* raptor and *A. r. culleni*, *Bussarellus nigricollis* and *Buteogallus aequinoctialis*; another figures the eggs of several of the Eagles and still another presents a photogravure of a nest of Bonelli's Eagle.—W. S.

Mathew's 'The Birds of Australia.'—Part 8 of Vol. XII¹ has appeared since our last issue, completing the Bowerbirds, and leaving only the Paradise Birds and the Crows and Crow Shrikes to complete the work.—W. S.

Dickey and VanRossem on New Pigeons from Salvador.²—A recent expedition to Salvador by Mr. A. J. VanRossem resulted in the collecting of a number of birds among which are two new races of Pigeons here described as *Columba fasciata letonai* (p. 109) from Mt. Cacaguatique and *Leptotila fulviventris bangsi* (p. 110) from Volcan San Miguel. All of the specimens are in the collection of Mr. Dickey.—W. S.

Barbour on a Remarkable New Bird from Cuba.—Bird life in the West Indies seem still to hold out possibilities of surprise for the ornithologist. A few years ago we were astonished at Dr. W. L. Abbott's discovery of a Crossbill, allied to the White-winged, in the mountains of San Domingo and now comes Dr. Thomas Barbour with the description of a new Wren from Cuba.³ It is not only a distinct species but constitutes a new genus, unlike anything hitherto known, with wings so short and weak and feathers so soft as to suggest that its powers of flight are very limited.

The bird is an inhabitant of the dense shrubbery of an almost inaccessible part of the Zapata peninsula on the south coast directly across from Matanzas. Here it is in song only in the summer time when torrential rains make the region almost impassable. Dr. Barbour had heard reports of this unknown song and induced Sen. Fermin Z. Cervera to try to identify its author. Through his perseverance five specimens of the bird were finally secured and it is appropriate that it should bear his name both in the specific and generic appellations which Dr. Barbour has given it—*Ferminia cerverai*.—W. S.

Recent Papers by Wetmore.—Pursuing his studies of American fossil birds Dr. Wetmore has recently made a careful examination of *Palaeospiza bella*, the curious unique specimen from the Florissant beds of Colorado,⁴ and finds that, as suggested by Dr. J. A. Allen, its describer,

¹ The Birds of Australia.. By Gregory M. Mathews, Vol. XII, Part 8. September 6, 1926.

² Two New Pigeons from Salvador. By Donald R. Dickey and A. J. Van Rossem. Proc. Biol. Soc. Washington, 39, pp. 109-110. November 3, 1926.

³ A Remarkable New Bird from Cuba. By Thomas Barbour. Proc. New England Zoological Club. Vol. IX, pp. 73-75. October 21, 1926.

⁴ The Systematic Position of *Palaeospiza bella* Allen, with Observations on Other Fossil Birds. By Alexander Wetmore. Bull. Mus. Comp. Zool., Vol. LXVII, No. 2, pp. 183-193, pl. 1-4. May, 1925.

it is an oscine passerine, though much lower in the scale than the Fringilidae with which Dr. Allen associated it. Lacking the skull it is very difficult to place it definitely though from the structure of the feet and the size of the wings and tail Dr. Wetmore regards it as belonging among the most primitive of the song birds and erects a new family, *Palaeospizidae*, for it. In this connection he also discusses the upper mandible of a bird from the Miocene of Kansas which was described by Dr. Shufeldt as *Palaeospiza hatcheri*. This Dr. Wetmore finds to be a true Finch of the *Zonotrichiae* group, in no way closely related to *Palaeospiza*, and in order to give its proper position he proposes a new genus for it, *Palaeostruthus*.

In another paper¹ he discusses fossil birds from the Green River deposits of eastern Utah in the collection of the Carnegie Museum. A new genus *Nautilornis* is proposed for two Auk-like birds *N. avus* (p. 392) and *N. proavitus* (p. 394) while another bird somewhat like an Avocet is called *Presbyornis prevetus* (p. 396) both species, genus and a family *Presbyornithidae* being proposed as new.

A third paper² has to do with a fossil Hawk from the Miocene of Sioux Co., Nebraska, also in the Carnegie Museum, which is described as *Gera-noaetus ales* (p. 403).

Of an entirely different character is a most interesting account³ of Dr. Wetmore's visit to the smaller less known islands of the Hawaiian group, profusely illustrated with excellent photographic reproductions from his own camera and that of Mr. Donald R. Dickey who accompanied him. —W. S.

Helms on the Birds of Angmagsalik.—The colony of Angmagsalik on the east coast of Greenland was established in 1894 with Johan Petersen, well known as an explorer of this bleak shore, as its superintendent. During his long residence dating to 1915 and a subsequent visit of a year, 1923-24, he studied the bird life of the vicinity and sent back collections and field notes to the Zoological Museum at Copenhagen.

In the paper⁴ before us Mr. O. Helms has reported on these collections and data, presenting an interesting summary of the ornithology of this remote spot with an account of the country and a brief historical outline of its exploration. The list of birds numbers 73 species—16 Ducks and Geese, a Ptarmigan, 2 Grebes, 2 Loons, a Fulmar, 3 Rails, 15 Shore-birds

¹ Fossil Birds from the Green River Deposits of Eastern Utah. By Alexander Wetmore, *Annals Carnegie Mus.*, XVI. No. 3-4. April 10, 1926 pp. 391-400, pl. XXXVI-VII.

² Description of a Fossil Hawk from the Miocene of Nebraska. *Ibid.* pp. 403-406, pl. XXXVIII. April 10, 1926.

³ Bird Life Among Lava Rock and Coral Sand. *Nat. Geogr. Mag.* July, 1925, 77-108.

⁴ The Birds of Angmagsalik. By O. Helms. Based upon the Collections and Notes of Johan Petersen. With a Map. (*Saertryk af Meddelelser om Grønland*, LVIII) Copenhagen. Bianco Lunos Bogtrykkeri. 1926. pp. 207-274.

and Plover, 7 Gulls and Terns, 5 Auks, the Cormorant, 4 Hawks, 2 Owls, 3 Crows and 2 Swallows together with the Starling, Pipit, Wagtail, Redwing and Wheatear and 4 Finches. No less than 30 are European species, while 6 are peculiar to Greenland though merely geographical races of European forms and 37 are common to Europe and northern North America, though more common in the former and of Palaearctic origin. From this summary one is more than ever impressed with the fact that the affiliation of the Greenland fauna, especially that of east Greenland, is distinctly with the Old World.

Dr. Helms has prepared a valuable and interesting report which must be consulted by anyone interested in the arctic fauna. His comments on some of American allies of Greenland birds are however a little amusing as for instance his statement that we might expect the Swan of Greenland to be *Cygnus buccinator* rather than the European race *C. cygnus*. He follows Shiöler in regarding the Snow Bunting and Lapland Longspur of Greenland as peculiar local races, as in the case of the breeding Mallards, which is very interesting if the birds to the east and west of them are identical, as they to all appearances are in the Mallards. It would be worth while to ascertain whether the two forms can be distinguished among the winter visitants to more southern countries.—W. S.

Riley on Birds from Yunnan and Szechwan.—The U. S. National Museum has received a collection of some 1600 birds from the provinces of Yunnan and Szechwan, China, made by Dr. Joseph F. Rock in connection with the explorations of the National Geographical Society during March 1923–February 1924.

Mr. Riley has identified and studied the collection and has described several new forms from it and he now presents a complete report¹ with notes on the plumages and relationship of the 244 species. All of the specimens are listed but there are no field notes.

The paper forms a valuable contribution to the ornithology of an interesting and none too well known portion of China, and those who are interested in following the itinerary of the party are referred to Dr. Rock's interesting papers in the 'National Geographic Magazine' Vol. 46, pp. 473–499 and Vol. 47, pp. 447–492.

Swarth on the Birds and Mammals of the Atlin Region, B. C.²—This is another of Mr. Swarth's admirable reports on the zoology of the Northwest. The expedition described was undertaken through the generosity of Miss Annie Alexander in the interests of the Museum of Vertebrate Zoology of the University of California. While making the investigations alone, so far as the Museum was concerned, Mr. Swarth had

¹ A Collection of Birds from the Provinces of Yunnan and Szechwan, China, made for the National Geographic Society by Dr. Joseph F. Rock. By J. H. Riley. Proc. U. S. Nat. Museum. Vol. 70. Art. 5. pp. 1–70. 1926.

² Report on a Collection of Birds and Mammals from the Atlin Region, Northern British Columbia. By Harry S. Swarth.

the companionship of Major Allan Brooks who collected independently.

The country explored forms the outermost portion of the Yukon region and being a hundred miles from salt water is "interior" in the character of its avifauna, with no coastal forms present. It is Hudsonian in the valleys and Arctic Alpine on the mountain tops with only a slight infiltration of Canadian forms.

In addition to the valuable annotated list of the species and a good bibliography, several distributional maps and a number of half-tones of scenery, there are important discussions of several groups or species. The *Dendragapus* forms are referred to two species as already suggested in these columns by Major Brooks, while the three White-crowned Sparrows are regarded as species and the author shows that the breeding range of *Z. nuttallii* is quite remote from those of the other two while the latter overlap. Upwards of 600 specimens on the Museum of Vertebrate Zoology fail to show any evidence of intergradation.

In discussing the Ptarmigan *Lagopus lagopus albus* is recognized for the Atlin and Hudson Bay race, *ungavus* for the Ungava bird and *alexandrae* for the Baranoff Island form, while a new form is proposed from Alaska, *alaskensis* (p. 87), type from the Kowak River delta. There is an account of the remarkable new species of Sparrow, *Spizella taverneri*, discovered in this region by Messrs. Brooks and Swarth and already described elsewhere, and also of the nesting of the Golden-crowned Sparrow with a colored plate of the egg, young and nesting site.

We congratulate Mr. Swarth on another good paper.—W. S.

Recent Papers by Hartert.—Dr. Hartert has recently published two papers on the birds of the Bismark Archipelago east of New Guinea. One of these¹ deals with New Britain the largest of the group, the ornithology of which was supposed to be pretty well known, although it appears that almost all of the collecting in the past was done on the northernmost part of the island. In 1925 in the interests of the Tring Museum, A. F. Eichorn visited the Talasea district in the western section and made a collection there, mainly in the mountains which attain an altitude of from 1200 to 3400 feet, and Dr. Hartert here presents the results of his study of the material. He lists 78 species of which *Micropsitta pusio stresemanni* (p. 130) is described as new while incidentally *Rhipidura dahlia antonii* (p. 141), from New Ireland, *Myzomela cineracea rooki* (p. 42) and *Philemon novaeguineae umboi* (p. 143), both from Rook Island, are named. Mr. Eichorn's most notable discoveries have already been described by Lord Rothschild and Dr. Hartert namely *Accipiter luteoschistaceus* and *Turdus talasea*.

Dr. Hartert's second paper² deals with another collection made by

¹ On the Birds of the District of Talasea in New Britain. By Ernest Hartert. *Novitates Zoologicae*, XXXIII, pp. 122-145, October, 1926.

² On the Birds of the French Islands north of New Britain. By Ernest Hartert. *Novitates Zoologicae*, XXXIII, pp. 171-178. October, 1926.

Eichorn on Witu and Unia Islands two of the French Islands, north of New Britain, where he secured 41 species. Those named as new are *Gallinula olivacea nigrifrons* (p. 172) and *Ptilinopus solomonensis meyeri* (p. 173).

In another paper¹ Dr. Hartert describes in his usual interesting style a second journey to Morocco, to Rabat and thence to Tedders, in search of additional information on the Francolin, *F. bicalcaratus ayesha* and the Guinea Fowl, *Numida sabyi*.

The annotated list of species obtained or observed numbers 110 of which *Parus major lynesi* (p. 287) is described as new from Azrou., while after further study of the question Dr. Hartert decides that the various African Guinea Fowls of the genus *Numida* had best be regarded as subspecies of one species.—W. S.

Devincenzi's 'Birds of Uruguay.'—The first part of a descriptive catalogue of the birds of Uruguay by Garibaldi J. Devincenzi,² Director of the Museum of Montevideo, has recently appeared. The work is well prepared and printed and the author seems to be quite up to date in his method and his nomenclature. Under each species is the original reference as well as reference to Azara and to records of the occurrence of the species in Uruguay. There are good descriptions of the various plumages, measurements and accounts of habits and of the nest and eggs, and in addition keys for the families, genera and species. The work is entirely in Spanish and should be of the greatest importance in developing an interest in ornithology in Uruguay.

The author does not seem to be acquainted with all of the publications on the birds of his country, however, as we find no mention of the account by the late Walter B. Barrows of the 'Birds of the Lower Uruguay,' which appeared in the last volume of the 'Bulletin of the Nuttall Ornithological Club' (1883) and the first volume of 'The Auk,' (1884), and which gives an excellent list of the birds of Concepcion. The present instalment of the work covers the families from the Rheas to the Gulls following the sequence of Sharpe's 'Handlist.'—W. S.

Snyder on the Birds of Wrangell Island.—This paper³ is a report on a small collection of bird skins, eighteen in all, made by Allan Crawford between September 16, 1921, when his party landed on Wrangell Island and January 28, 1923, when he with two companions left the island in their tragic attempt to reach the shores of Siberia. A few species are added to the list having been attributed to Wrangell by E. W. Nelson and others.

¹ On Ornithological Journey in Morocco in 1924. By E. Hartert. Bull. Soc. des Sci. Nat. du Maroc. V. No. 6. July, 1926. pp. 271-304.

² Anales del Museo de Historia Natural de Montevideo. Serie II—Tomo II. Entrega II. pp. 129-200. Montevideo, 1926.

³ The Birds of Wrangell Island, with Special Reference to the Crawford Collection of 1922. By L. L. Snyder, Univ. of Toronto Studies. Biological Series No. 28. pp. 1-20. 1926.

Mr. Snyder has added interesting notes on the occurrence of the various species to the account of the specimens which constitute the only collection ever made upon Wrangell and has also compiled a bibliography of Wrangell island.—W. S.

Arrigoni on the Game Laws of Italy.¹—This report is an explanation of the Italian National game law of 1923, which is apparently the first general law on the subject. Italy has been notorious for giving birds no protection at all, even song birds have been sold in all the markets for food.

It will doubtless take many years and additional laws with stringent enforcement to make the people appreciate the proper attitude toward wild life but this law and the explanation and comments here presented by Count Arrigoni degli Oddi is a good beginning.

In addition to the legal discussion there is much historical matter and an interesting account of the various methods used recently and in the past for catching birds, with numerous illustrations.—W. S.

Humphreys' 'Fogs and Clouds.'²—The ornithologist in these days of zoogeography and the influence of environment and climatic conditions on the distribution of life must needs acquaint himself with subjects which at first thought would appear foreign to his work.

Mr. William J. Humphreys, meteorological physicist of the U. S. Weather Bureau has published several works dealing with air conditions and the weather such as 'Physics of the Air,' 'Weather Proverbs and Paradoxes' and 'Rain Making and other Vagaries' and now presents a very interesting volume on 'Fogs and Clouds.' All of these are books that the field ornithologist can read with profit. In the book before us the author not only presents a wonderful collection of fog and cloud photographs but explains in a very lucid way the formation of clouds and the method of evaporation and condensation, the effect of air of different temperature and density blowing over differently heated ground or mountain sides, the cause of continual rainfall on certain coasts, and the formation of sea fog, city fog, etc., etc.

Many of these conditions familiar to the zoologist but often little understood by him are here fully explained. As Mr. Humphreys states, nearly everyone is a collector. He is a collector of cloud photographs and quite naturally in the course of his writings he solicits the help of all who are in a position to aid him increase his collection.—Ornithologists could, we think, prove valuable contributors.—W. S.

¹ *Testo Esplicativo ed Illustrativo delle Disposizioni Vigenti in Materia Venatoria*, W. By Ettore Arrigoni degli Oddi. Padova. 1926, pp. xi, 1-252 with 15 figures in the text.

² *Fogs and Clouds*. By William J. Humphreys. The Williams and Wilkins Co., Baltimore, U. S. A., pp. 1-104, 93 figures from Photos. Price \$4.00.

Heinroth's 'Birds of Middle Europe'.¹—The first part of this epoch-making work on the breeding birds of central Europe has already been reviewed in 'The Auk' for January, 1925. The first ten parts, which appeared from July, 1924, to April, 1925, continue the treatment of the passerine birds. These parts include the Wren, Water Ouzel, Accentors, Thrushes, Flycatchers, Waxwing, Shrikes, Swallows, and the beginning of the Old World Warblers, in all thirty-one species.

The author gives a brief general account of the families and other groups as well as more detailed information regarding the species in each. No attempt is made to give a complete life history of the birds treated, nor to go into technical details. Neither is there a complete description of the adult plumage, although measurements and geographic distribution are included. Notwithstanding that the book is not a technical treatise but a contribution to the behavior of birds, we notice that the nomenclature is commendably up to date.

The text is made up largely of original life history observations in the field and in captivity, and therefore the accounts of the various species differ greatly in length, according to the opportunities of the authors. Much interesting information is given on song notes, nesting, young, and the general behavior of the various species. The evident exactness of the data presented indicates the care with which the observations have been made.

Of particular value are the notes on the development of nestling birds with exact data on the age of each stage of plumage—information which is difficult to obtain and all too rare in books on birds, and which Dr. Heinroth's opportunities for rearing birds in captivity have given him an unexampled opportunity to gather. Especially good among others are the accounts of the life history of the Nightingales (*Luscinia megarhyncha* and *Luscinia luscinia*), Robin (*Erithacus rubecula*), Blackbird (*Turdus merula*), Spotted Flycatcher (*Muscicapa striata*), and Swallow (*Hirundo rustica*).

The wealth of illustration in this work adds greatly to its value. The numerous plates are, however, issued at random, and in but few instances do they illustrate the species that are described in the parts in which they appear. Both the colored and the black plates are intended to show the development of the species figured from the egg to the adult, and they represent various stages of plumage at precisely known ages, in this well supplementing the text descriptions. This is one of the most valuable features of the book. If the standard already set is maintained in the parts yet to be issued, it is probably not too much to say that 'Die Vögel Mitteleuropas' is one of the most important contributions to the life history of European birds that has appeared in many years. It should be in the library of everyone interested in European ornithology.—H. C. O.

¹ Dr. Oskar u. Frau Magdalena Heinroth, Die Vögel Mitteleuropas. Herausgegeben von der Staatl. Stelle für Naturdenkmalpflege in Preussen. Hugo Bermühler Verlag, Berlin-Lichterfelde. Lieferungen 1-10; 1924-1925; pp. 1-80; 16 colored plates; 42 uncolored plates.

The Ornithological Journals.

Bird-Lore. XXVIII, No. 5. September-October, 1926.

Thrills of an Eastern Ornithologist in the South. By Charles W. Townsend.—Down the Ohio and Mississippi to New Orleans and then to Brownsville, Texas, Florida and South Carolina.

We Watch the Ducks Come In—My Horse and I. By William Grattwick.—A beautifully written sketch.

Notes on the Golden Eagle in Captivity. By M. G. Netting.

The Terns of the Thousand Islands. By Minna Common.

Some Useful Birds. By A. A. Allen.—An excellent paper with a plea for the transfer of the Yellow-legs to the non-game bird list.

The Condor. XXVII, No. 5. September-October, 1926.

Examples of Recent American Bird Art. By Harry Harris.—Account of the art exhibit at the Cooper Club's annual meeting with twenty-one illustrations.

How the Bird Census Solves Some Problems in Distribution. By May Thatcher Cooke.

The Faunal Areas of Baja California del Norte. By Griffing Bancroft.—No less than six districts are here outlined for this part of Lower California, viz., the Sandiegan and Colorado Desert, which reach over from southern California, and west of them the Delta, then to the south the San Pedro Martir and farther down the Vizcaino Desert, with the San Ignacio district entering the area on the southwest.

The California Forms of *Agelaius phoeniceus* (Linn). By A. J. Van Rossem.—Seven races are recognized and *A. p. mailliardorum* (p. 223) from Palo Alto, is described as new. *A. p. caurinus* enters the state on the extreme northwest coast while *nevadensis* comes in from the east; *californicus* is the form of the great interior valleys and *mailliardorum* of the San Francisco coast district. Then to the south there is *neutralis* of the San Diegan region; *sonoriensis* coming in over a small area in the southeastern corner and *aciculatus* one of the best marked forms with a very limited habitat in Kern Co. The variation in the shape of the bills due to age is quite as interesting and marked as the geographic variation.

Notes on the Birds of the Baboquivari Mountains, Arizona. By Stephen C. Bruner.

A new race is described by Mr. Van Rossem in the 'Field and Study' section.—*Dichromanassa rufescens dickeyi* (p. 246) San Luis Island, Gulf of California.

The Condor. XXVIII, No. 6. November-December, 1926.

James Hepburn, A Little Known Ornithologist Californian. By Harry S. Swarth.—A very interesting biographical sketch.

Studies on 1170 Banded House Finches. By Harold and Josephine R. Michener.

The Discovery of the Nest and Eggs of the Western Goshawk in California. By Milton S. Ray.

The Viosca Pigeon. By Chester C. Lamb.

Range Extensions by the Western Robin in California. By Tracy I. Storer.

A Form of Record for Amateur Ornithologists. By R. S. Woods.—Another card system of keeping notes.

In 'Field and Study' section, Dickey and van Rossem describe *Euthlypis lachrymosa schistacea* (p. 270), from Salvador.

The Wilson Bulletin. XXXVIII, No. 1. March, 1926.

The Barred Owl. By Edward von S. Dingle.—In South Carolina, with an excellent original portrait.

Kansas City as a Center of Early Ornithological Activity in the West. By M. H. Swenk.

In Search of Kirtland's Warbler. By N. A. Wood.—Considers the birds to be distributed in definite colonies, about one pair to the acre which is estimated to total about 5000 to 6000 pairs.

A House Wren Study. By Mrs. Marie Dales.—Opposite habits in two pairs of birds.

Birds of the Red River Valley of Northeastern Dakota. By H. V. Williams.

The Wilson Bulletin. XXXVIII, No. 2. July, 1926.

White Pelicans and Other Birds of Chase Lake, North Dakota. By Walter W. Bennett.

Color Reproduction of Bird Illustrations. By Harry G. Lotz.—An explanation of the method of producing color "half tones," with a frontispiece illustration from a painting of the Avocat by Geo. M. Sutton.

Behavior of the Blackburnian, Myrtle and Black-throated Blue Warblers with Young. By Margaret M. Nice.

An Iowa Bird Census. By B. D. Nauman.—Nine yearly lists of breeding pairs for two areas.

Birds of the Red River Valley of Northeastern North Dakota. By H. V. Williams (concluded).

In the editorial columns we find a discussion of species and subspecies which involves a recent review in 'The Auk.' The editor of the 'Wilson Bulletin' seems to have completely misunderstood our remarks, (a fact already commented upon in 'Bird-Lore' for July-August, p. 291). We did not say that the "accuracy" of subspecies should not be questioned but that we had no right to condemn subspecies simply because they did not happen to concern the work in which we were most interested, which is the attitude of most of those who object to them. The recognition of finely drawn subspecies in field studies of habits, etc. is unnecessary, as it is also in the matter of eggs; but it is of the utmost importance in mapping out distribution and formulating theories as to the origin of life zones and in tracing migration routes.

The crux of the whole matter however seems to us to lie in the fact that subspecies are not based upon the degree of difference but upon intergradation and we cannot treat them all alike, in studies or investigations where amount of difference is the chief point involved (see for further discussion of this point p. 000).

The Wilson Bulletin. XXXVIII, No. 3. September, 1926.

A Bird Sanctuary on Reclaimed Land. By F. M. Woodruff.—In Lincoln Park, Chicago.

The Autobiography of Franklin Lorenzo Burns.

Notes on Birds of Pinellas and Pasco Counties, Florida. By Wm. G. Fargo.

An Exonoration of the Purple Finch. By M. J. Magee.

Notes on the Evening Grosbeak. By M. J. Magee..

Special Studies of the Mourning Dove by the Bird Banding Method. By W. B. Taber, Jr.

The Oölogist. XLIII, No. 7, July, 1926.

Birds of Chickamauga Park, Georgia. By L. O. Pindar.—Apparently no specimens were taken and it is hard to understand how the Southern and more northern Downy Woodpeckers could both breed in the same locality. The association of the Junco, Veery and Cairns' Warbler with the Chat, Cardinal and other Carolinian species is also hard to understand.

The Oölogist. XLIII, No. 8. August, 1926.

Nesting of Ross' Goose in Confinement. By R. M. Barnes.

Nest Parasitism with the Mourning Dove. By P. B. Peabody.

The Oölogist. XLIII, No. 9. September, 1926.

Summer and Autumn Birds of Central South Carolina. By L. O. Pindar.—This list is more remarkable than that by the same author for Georgia. The Wilson's Plover, a bird found only on the sea beach is said to be "fairly common" near Columbia in the center of the state as also the Gray Kingbird which has in reality been taken but once or twice and then on the coast. Other records are just as startling, some of the species like Ward's Heron and the Lark Sparrow never having been seen before in the State.

A Captive Raven. By L. A. Luttringer, Jr.

The Murrelet. VII, No. 3. September, 1926. [Mimeographed journal.]

Birds Observed at Moses Lake, Grant Co., Washington. By D. E. Brown.

Nesting Notes on the Pacific Nighthawk at Tacoma, Washington. By E. A. Kitchin.

The Status of the Ferruginous Rough-leg in the State of Washington. By F. R. Decker and J. H. Bowles.

Common Winter Birds of Puebla, Mexico. By R. H. Palmer.
Destruction of Young Lambs by Crows. By C. deB. Green.
Numerous notes.—Robin eating a mouse, Steller's Jay storing food, parasitic flies on English Sparrows, etc.

Bulletin of the Northeastern Bird-Banding Association. II, No. 4. October, 1926.

A Few Lancaster [Mass.] Bird Banding Notes. By Herbert Parker.

Home Life of the Black-throated Blue Warbler. By Katherine C. Harding.

Additional Experiences in Banding Terns at Tern Island, Chatham, Mass. By C. B. Floyd.

Recent History of a Pair of White-breasted Nuthatches. By Helen G. Whittle.—Remained in company for two winters and two summers and have raised at least two broods.

Ruffed Grouse No. 332439 of the Stone Bird Sanctuary. By Lester W. Smith.—A very tame bird.

The Bearing of a Knowledge of Nest Spacing among Birds on the Work of the Bird-Bander. By Charles L. Whittle.

Notes on Nesting of the Phoebe. By A. W. Higgins.

Banding Chimney Swifts at Patten, Maine. By E. O. Grant.

The Gull. VIII, Nos. 5 to 10. May to November, 1926.

The California Condor—A Modern Roc. By Walter Fay. (May.)

Visit to a Baird Cormorant Colony. By A. S. Kibbe. (June.)

The Surf Bird's Trysting Place—A Mystery no Longer. By A. S. Kibbe. (July.)

Bird Life on the Northern Prairies. By Carl R. Smith. (July.)—In the Dakotas.

Birds Seen in the Cazadero Region, Sonoma County, during June and July, 1926. By H. E. Hanson. (November.)

The Ibis (Twelfth Series). II, No. 4. October, 1926.

Local Changes in Distribution. By T. G. Longstaff.—Eight seasons' study of the numbers of species and individuals on a tract of eleven acres in England. Ecological elements seem to be the most weighty in affecting the number of species, and weather variations (temporarily) the number of individuals. "Only through ecological research" says the author, can we ever hope to attain a true conception of the laws of distribution and of the correlated habit of migration."

Notes on the Summer Birds of the West Coast of Newfoundland. By Ludlow Griscom.—An excellent historical review of the literature, and a discussion of the nature of the country and its avifauna, with an annotated list of 87 species. The author does not commit himself as to the status of several races of land birds recently described as distinct from the continental forms. There are excellent photographs of the country.

Picus vittatus and some of its Allies. By C. Boden Kloss.—*P. v. meridianus* (p. 689) from Lamra, Siam is described as new.

Birds of the Arrow Lakes, West Kootenay District. British Columbia. By J. E. H. Kelso.

The Birds of the Kangra District, Punjab. Part II. By Hugh Whistler.

On some Birds of Adamawa and New Cameroon: an Answer to some Criticisms and Remarks on New Forms recently Described by Dr. Herman Grote. By D. A. Bannerman and G. L. Bates.—*Emberiza affinis nigeriae* (p. 801) from North Nigeria and *Anthus rufulus lynesii* (p. 802) from Cameroon are described as new.

On the Characters of Hybrid Peafowl. By F. Finn.

Some Miscellaneous Notes on European Birds. By W. A. Payn.

Under "Notes," Dr. Sushkin discusses the classification of the Fringillidae; and there are mention of the Steller's Eider breeding in Norway, the boundary of the Palearctic and Oriental Regions in the Riu Kiu Islands, a revision of the Cisticolas, etc.

Bulletin of the British Ornithologists' Club. No. CCCVIII. November 6, 1926.

Mr. J. Delacour describes 31 new species and subspecies from Annam and Laos, he also states that comparison shows that *Dryonastes grahami* Riley is identical with *D. maesi* Oustalet.

New races are described as follows: *Alauda arvensis lönnbergi* (p. 23) by Hachisuka, from Saghalien; *Erethacus rubecula lavaudeni* (p. 24) Tunisia and *Certhia brachydactyla raisulii* (p. 25) Little Atlas, by Bannerman; *Strix aluco obscuratus* (p. 39) Caspian Sea, by B. Stegmann. W. L. Slater discussed various African birds describing several new forms and Dr. Sushkin proposes six new races of Palaearctic game birds and Mr. Stuart Baker five new oriental forms. Lord Rothschild discusses the one-wattled Cassowaries and Mr. Bunyard describes the egg-laying of a Cuckoo which was under observation last year and which laid 15 eggs in 1926.

British Birds. XX, No. 4. September, 1926.

Notes on Alberta Waders. By William Rowan. Part III. Turnstone, Bartram's Sandpiper, Sanderling, Knot and Dunlin.

A Study of the Robin by Means of Marked Birds. By J. P. Burkitt. Fifth Paper.—Interesting data of various kinds based on a study of 88 individuals, feeding habits, song, molting, length of life, etc.

The Egg-devouring habit of the Cuckoo. By Geo. R. Humphreys.

British Birds. XX, No. 5. October, 1926.

The Eggs of the Sparrow Hawk. By J. H. Owen.—Measurements of sets from the same bird.

Field Notes from Lakeland. By R. H. Brown.

British Birds. XX, No. 6. November, 1926.

Notes on Alberta Waders. By William Rowan. Part IV. Sandpipers.—Beautifully illustrated by photographs and drawings.

Avicultural Magazine. IV, Nos. 9–11. September, October and November, 1926.

Further Notes on Rhodesian Birds. By Sidney Porter. (Sept.)

Japanese Aviculture. By J. Delacour. (Sept.)

Notes on Birds of Mt. Selinda, Gazaland. By Sydney Porter. (Oct. and Nov.)

A Blue Alexandrine Parrakeet. By A. Ezra. (Nov.) "Lutines" or yellow varieties of green parrots are rather frequent both wild and in captivity but blue forms are rare. The former seem to be usually females while such of the latter as are known are males. The bird here described and figured is mated to a female "lutine" of the same species but so far their eggs have been infertile.

Nesting of Brazilian Rails in Captivity. By W. Shore Bailey. (Nov.)

Articles on various parrots illustrated by excellent color plates by a new process.

The Oölogical Record. VI, No. 3. September, 1926.

The Southern Scrub Robin, *Drymodes brunneopyga*. By J. A. Ross.

The Emu. XXVI, No. 2. October, 1926.

Habits of the Boobook Owl (*Ninox boobook*). By D. H. Fleay.

Prince Edward's Lyre Bird Revisited. By Spencer Roberts.

Mistletoe Birds as Plant Distributors. By G. A. Heumann.

Economic Value of the Stubble Quail. By J. R. Kinghorn.

The Charming Crescent Honey-eater. By D. Dickison.

British and Australian Birds.—A Comparison. By H. Wolstenholme.

Birds of Cobark, N. S. W. By W. J. Enright and J. Hopson.

South Australian Ornithologist. VIII, No. 7. July, 1926.

Notes on the Birds of Kangaroo Island. By J. B. Cleland, A. M. Morgan, E. Ashby, and J. Sutton—six articles, also one on the Extinct Emus of Kangaroo Island and Elsewhere. By W. Howchin.

Revue Francaise d'Ornithologie. (Eleventh series.) 18, No. 208–210 August to October. [In French.]

Why do Modern Ornithologists Find it so Difficult to Agree on the Question of Subspecies? By O. de Zedlitz.

An Ornithologist's Trip through Africa. By L. Levauden.

The Alpine Tit. By H. Jouard.

Bibliography of the Ornithological Faunas of French Regions (Continued.) By M. Legendre.

Contributions to the Ornithology of Algeria. By H. Heim de Balsac.

L'Oiseau. VII, Nos. 6 to 9. June to September, 1926. [In French.] Articles on Parrots by several authors with the same excellent color plates as are used in the 'Avicultural Magazine.'

Birds of Foxwarren. By J. Delacour. (June.)—Mr. Alfred Ezra's aviary.

Recollections of a Naturalist in French West Africa. By H. N. Millet Horsin. (June and July.)

On Tranninh. By J. Delacour.—In French Indo China.

Some Collections of Living Birds in the United States. By J. Delacour. (July.)—Accounts of visits to the zoological gardens of New York, Philadelphia and Washington.

The Birds of Japan. By J. Delacour. (Aug.)

Some Notes on the Treatment of Avian Diphtheria. By G. Charpentier-Denieau. (Sept.)

Catching of Crows in Nets in the Valley of Doubs. By A. Chappellier. (July, Aug., Sept.)

Journal für Ornithologie. LXXIV, No. 4. October, 1926. [In German.]

The Diffusion of the Serin (*Serinus canaria serinus*). A Contribution to Zoogeography. By Ernst Mayr.

Dr. Marcus zum Lamm (1606) as an Ornithologist. By A. Schwan.

On the Bibliography of the Writings of F. A. von Pernan and H. F. von Gochausen. By E. Stresemann.

Review of the Russian Forms of *Lagopus mutus*. By P. Sserebrowsky. — *L. m. pleskei* (p. 696) Siberia, described as new.

New subspecies of Palaearctic Birds. By N. Gawrelenko.—*Galerida cistata molschanowi* (p. 699) Sevastopol and *Porzana parva illustris* (p. 700) Tarim River, Turkestan.

Contributions to the Breeding and Life Histories of Birds of German East Africa. By L. Schuster. Part III.

The Formation of the Formenkreis *Poicephalus senegalus*. By H. Grote. *P. s. adolphi-friderici* (p. 746) Badingoua, French Equatorial Africa.

The Formenkreis *Myrmecocichla nigra* and *arnotti*. By R. Neunzig.—*M. a. harteri* Zp. (p. 754) Malange.

Journal für Ornithologie. Sonderheft. 1926. [In German.]

Avifauna of Egypt. By Alex. Koenig.—Coniostres, Columbae, Rasores and Grallatores.

Ornithologische Monatsberichte. 34, No. 5. September-October, 1926. [In German.]

Ornithological Results of P. Spatz's Explorations on the Rio de Oro. By E. Stresemann.

Eremophila bilopha elegans (p. 136) and *Struthio camelus spatzi* (p. 138) described as new.

Remarks on Birds of the North Atlantic. By F. Solomonsen.

Notes on the Ornithology of Crete. By G. Schiedel.

Two New Forms from Zanzibar and Cameron. By H. Grote. *Acrocephalus baeticatus suahelicus* (p. 145) Zanzibar, and *Saxicola torquata voeltzkowi* (p. 146) Great Comoro.

In the "Notes," *Apatelornis* (n. g.) *wachei* Reichenow (p. 146) Gambia, *Motacilla claviventris icterica* Stresemann (p. 147) Madagascar, and *Cinnyris humbloti mohelica* (p. 147) Moheli are described as new.

Ornithologische Monatsberichte. 34, No. 6. November, 1926. [In German.]

Breeding Habits of *Tringa hypoleuca*. By G. Stein.—Evidence of brooding by the male as has been described by van Rossem in the case of the allied American *T. solitaria*

Migration Observations of *Branta leucopsis* in the Munduns Region of the Elbe. By F. Tantow.

Breeding Studies of Pomeranian Birds. By P. Robien.

On Birds from Southeast Celebes. By R. Rensch.—*Turacoena menaden-sis elberti* (p. 175) described as new.

In Notes, *Cinnyris chalybeus gertrudis* (p. 183) is described as new by Grote from German East Africa.

Contributions to the Development of Birds. II, No. 5. September, 1926. [In German.]

On Ostriches and Ostrich Eggs from the Rio de Oro. By Paul Spats.

Breeding of the Black Cock. By E. Christoleit (continued in Nov.).

Ornithological Results of Two Short Trips to the Balearic and Pityusae Islands. By O. P. Henrici. (Continued in Nov.)

Observations of *Circus cyaneus* and *C. pygargus*. By L. Schuster. (Continued in Nov.)

Life Histories of Some Little Known Palearctic Birds. By H. Grote.

Contributions to the Development of Birds. II, No. 6. November, 1926. [In German.]

Observations of the Eyries of Eagles. By C. Hilgert.

On the Nesting and Song of Brazilian Birds. By K. Guenther.

Ornithologische Beobachter. XXIII, No. 10. July, 1926. [In German.]

On the Meteorological Conditions of Bird Flight. By V. Haecher.

The Division of Ornithology according to Biological Sciences. By V. A. Corti.

Here and There in Egypt and the Anglo-Egyptian Sudan. By A. Mathey Dupraz.

Ornithologische Beobachter. XXIII, No. 11. August, 1926.—XIV, No. 1. [In German.]

Some Ornithological Observations on a Voyage from Bremen to Madeira. By H. Noll-Tabler. (August.)

The Pheasant in Thurgau. By A. Stierlin. (Sept.)

The Northern Jerfalcon. By A. Hess. (Oct.)

Bulletin of the Schlesian Ornithological Society. XII. 1926. [In German.]

Song Studies. By H. Stadler.

The Knowledge of the Speed of Bird Flight formerly and now. With special reference to the Crow. By K. Radig.

Danske-Fugle. Organ of the Danish Ornithological Central. 1926. No. 1. [In Danish.]

Entirely devoted to bird banding records with maps showing returns. 206 *Ardea cinerea* were banded with 50 returns; 112 *Ciconia nigra* with 27 returns and 1950 *Ciconia alba* with 120 returns.

Norsk Ornithologisk Tidsskrift. (Second series.) VII, No. 2. 1926-7. [In Norwegian.]

On the "Speculum boreale" and its Author. By A. B. Wessel.

Observations on Bird Life at Hornsund, Svalbard, from Autumn 1923 to Spring 1924. By S. Kristofferson.

Modern Ornithology—A Contribution to Species, Subspecies and Nomenclature. By E. Lenn Schioler.

Breeding of Steller's Eider in Norway. By F. C. R. Jourdain. [In English.]

Motacilla cinerea cinerea, in Scandinavia. By H. T. L. Schaanning.

Recorded Observations. IV and V. By H. T. L. Schaanning.

Limosa limosa in the Norwegian Fauna. By H. T. L. Schaanning.

On the Bird Life of Hardanger. By A. Bernoft-Osa.

The Sixth International Ornithological Congress. By H. T. L. Schaanning.

Aquila. XXXII-XXXIII. 1925-1926. [In Hungarian and German.]

The Modern Method in Rook Investigation. By T. Csorgey.

Report on Bird Banding in Hungary in 1924 and 1925. By Jacob Schenk.

Bird Migration Dates for Hungary. By Koloman Warge.—1924 and 1925.

The Distribution of the Serin in Hungary. By J. Schenk.

Snow Geese in Hungary. By J. Schenk.

Larus hyperboreus in Hungary. By N. Vasvari.

Northern Wild Geese in Hortobagy. By T. Tarjan and L. Szomjas.

Observations on the Ural Owl. By A. Hrabar.—Food.

The Art of Bird Catching in Italy. By G. Vallon.

Numerous short notes.

Ornithological Articles in Other Journals.

Macnamara, Charles. Champlaine as a Naturalist. (*Canadian Field Naturalist*, September, 1926.)—Refers to his mention of the Red-wing, Passenger Pigeon, Scarlet Tanager, etc., in the account of his expedition to America, 1599–1612.

Spinney, H. L. Nesting of the Bald Eagle. (*Maine Naturalist*, September, 1926.)—In Sagadahoc Co., Me., in the eighties and seventies.

Norton, A. H. Notes on the Acadian Owl. (*Maine Naturalist*, September, 1926.)

Eaton, W. F. and Curry, H. B. Summer Birds of Vermont—Particularly of the Long Trail though the Green Mountains.—An annotated list of 102 species. (*Joint Bulletin*, No. 11, of the *Vermont Botanical and Bird Clubs*, June 1926.)

Spinney, J. L. The Egret in Merrymeeting Bay, Me. (*Maine Naturalist*, 1926, No. 4.)—Seen August 15, 1925, an adult with fully developed plumes which is very unusual in these northern stragglers, which seem to be mainly birds of the year.

Wetmore, Alexander. The Fossil Birds of North America. (*Natural History*, September–October, 1926.)

Gromme, O. J. On the Trail of the Sandhill Crane. (*Yearbook of the Milwaukee Public Museum*, 1924.)—On a large marsh in northern Wisconsin.

Perkins, I. J. Photographing and Banding Red-tailed Hawks. (*Yearbook of the Milwaukee Public Museum*, 1924.)

Gladstone, H. S. The Position of the Wild Fowl. (*Scottish Naturalist*, September–October, 1926.)—Discussion of the need for better protection.

Paton, E. R. The Labrador Falcon—A New Bird Immigrant. (*Scottish Naturalist*, September–October, 1926.)—*Falco obsoletus* taken on an island in Pentland Firth, Scotland, with a halftone illustration from a drawing by the author.

Connell, Charles G. Bird Notes from Eigg. (*Scottish Naturalist*, September–October, 1926.)

Stewart, W. The Willow Tit in Lanarkshire. (*Scottish Naturalist*, September–October, 1926.)—This is a race of our American Black-capped Chickadee, an illustration of the diversity of common names.

Baxter, E. V. and Rintoul, L. J. Report on Scottish Ornithology for 1925, (continued). (*Scottish Naturalist*, September–October, 1926.)

Brown, W. J. Studies of Thrushes. (*Canadian Field Naturalist*, May, 1926.)

Taverner, P. A. Scientific Advice for Wild Life Conservationists. (*Canadian Field Naturalist*, May, 1926.)

Canadian Nat. Parks. Official Canadian Record of Bird-Banding Returns.

Von Blon, J. L. Feathered Aces of the Air. (*American Forests and*

Forest Life, October, 1926.)—The California Gull with wonderful photographs by the author.

Foster, G. S. Feeding the Winter Birds. (*American Forests and Forest Life*, December, 1926.)—Excellent suggestions.

Brooks, Earle A. A Check-List of the Birds of West Virginia. (*West Virginia Wild Life*, May, 1926.) A briefly annotated list.

Bird and Game Protection.

Chapman, Abel. On the Safeguarding of Wild-Life. Printed for private circulation, London, 1926.—In this little pamphlet Mr. Chapman presents a very interesting commentary on British legislation for the protection of wild-fowl, etc., and makes suggestions for future effort. He is most optimistic when he says: "Reclamation or commercial developments have banished wild fowl from many an ancestral stronghold, but such local incidents affect in no whit their aggregate numbers. They simply shift elsewhere." We hope that he may be right but in America it looks as if in a short time, outside of sanctuaries, there will not be many places left for them to "shift" to.

Phillips, J. C. An Investigation of the Periodic Fluctuation in the Numbers of the Ruffed Grouse. (*Science*, January 22, 1926.)

Pycraft, W. P. Geese that Lay Golden Eggs. (*Illustrated London News*, September 25, 1926.) A discussion of the same problem; in which it is stated that the motor car, and motor boat are making it easy to pursue Ducks and slaughter them in great numbers, while unrestricted sale in the markets is depleting them rapidly. "If the present rate of slaughter continues in a year or two there will be no Ducks to sell!" America's precaution in stopping the sale of game and providing sanctuaries is highly praised.

Lowe, Percy R. The Present Status of the Wild-Fowl of Europe. Published by the International Committee for the Protection of Wild Birds (British Sect.), 1926.

Canadian National Parks. Birds a National Asset. Views of the Provincial Ministers of Agriculture.

Stoddard, Herbert L. Report on Coöperative Quail Investigation: 1925-1926.—Much additional information is presented in this report which is prepared for the subscribers to the Quail investigation fund and some preliminary recommendations for the development of Quail preserves are offered. The work is made in coöperation with the biological survey. While Mr. Stoddard warns against the destruction of useful Hawks and specifies the Cooper's and Sharp-shinned as the two destructive species. It is quite evident from the host of Hawks that have come to our attention killed on the southern game reservations, that keepers make no effort to distinguish between the various kinds and go on the principal that the more they kill the better. Mr. Stoddard points out that in 1098 pellets cast up by Marsh Hawks there were remains of but three Quail, yet half of the thirty or more frequenting the roosting place under examination

had been killed before his study began. What the birds were really feeding on were rodents and snakes, both most destructive to Quail eggs.

Corsan, G. H. Catering to the Birds. (*American Forests and Forest Life*, June, 1926.)—A discussion on trees and shrubs that are attractive to birds.

Leopold, Aldo. The Way of the Waterfowl. (*American Forests and Forest Life*, May, 1926.) An excellent article by the former secretary of the New Mexican Game Protective Association showing how an area can serve as a game refuge and a public shooting ground. A strong plea for the Public Shooting Ground Bill which is being opposed by misinformed persons.

Carey, Henry R. To Whom does American Wild Life Belong? (*American Forests and Forest Life*, October, 1926.)—A plea that should be read by all interested in bird protection. Its keynote is that sportsmen have no exclusive right to kill off all enemies of game so that they may have plenty of game to kill. The nature lover should have the same right to save Hawks and other birds and mammals which add to the beauty, and interest of the outdoors. This "pheasant worship" has nearly depleted the birds of prey in England and has drawn from Bernard Shaw the comment "Children should be hunted and shot during certain months of the year, as they would then be fed and preserved by the sportsmen of the country as generously and carefully as Pheasants now are, and the survivors would make a much better nation than our present slum product."

CORRECTION. In a review of Mr. H. Kirke Swann's 'Two Ornithologists on the Lower Danube', in 'The Auk' for January 1926, the price was misprinted. It should be 5 shillings and the size of the book is 9 × 6 ins.

CORRESPONDENCE.

Editor of 'The Auk':

In the last (October) 'Auk,' pp. 508-527, appears an annotated list of the Birds of Gaspé County, Quebec, that contains so many obvious errors that I feel forced to call public attention to it as a guard against future distributionists taking it seriously and adding still further to the uncertainties of our literature. I cannot here pick out all the statements that fail to carry conviction but merely call attention to some of the grosser and more obvious inaccuracies.

In the introductory paragraph it is stated that the Canada Geological Survey established certain grounds as bird sanctuaries. It would be impossible for such a governmental department to establish such a sanctuary. In fact the sanctuary was proclaimed by the Provincial Government of Quebec, followed by similar action of a Federal Order in Council.

In the species list we find,—

Brünnich's Murre. I know of no summer record for this species on the Gulf of St. Lawrence except in the immediate neighborhood of the Bird Rocks in the neighborhood of the Magdalen islands. It occurs in winter in Gaspesian waters but I know of no summer specimens from there and would question sight records.

Black Tern. The Black Tern may occur occasionally but is certainly not a "regular traveller in the region." I know of no record for the Gulf of St. Lawrence except a single fall occurrence on Prince Edwards Island.

Double-crested Cormorant. Official orders were never issued to destroy Cormorants on the Gaspé coast. Because such a request has been made and was under consideration the investigation was conducted.

Red-breasted Merganser. Mergansers nesting, as inferred, in colonies of several hundreds on rocky islands is a new event in the known life history of this species.

Mallard. Under heading of Black Duck, Mallards are said to breed plentifully on the southeastern coast of Labrador. A wilder statement could scarcely have been made. It is very rare as far east as Quebec City and we have no record of occurrence beyond Pointe des Monts.

Barrow's Goldeneye. We have no substantiated record of Barrow's Goldeneye breeding on the Gulf of St. Lawrence. It occurs in some numbers there in winter and some may possibly be found in summer along the North Shore but where these birds nest is still a matter of surmise. All the breeding Golden-eyes of the Gaspé Peninsula that have been so far identified have been American. Nesting on rocky islands with Scoters and rising from the ground in flocks when disturbed does not agree with usual Golden-eye practice.

Scoter. Though under heading of Barrow's Goldeneye the writer mentions large numbers breeding on rocky islands, no mention of nesting is

given under any of the three Scoter headings. Large flocks of Scoters, mostly Surf and White-winged, are to be found through the summer along the North Shore and perhaps stragglers may be seen on the south side of the Gulf in the same season but so far their breeding locality is unknown.

Piping Plover. A very unlikely bird to be met with in this northern locality yet it is dismissed with mere mention.

Flycatchers. These Flycatcher notes fail to carry conviction for instance,—May 6 and October 5 are extraordinary dates for the Alder Flycatcher at this latitude.

Lincoln's Sparrow. One small flock and a single pair make a very small number of this species to note during the better part of a season's work here. It should be one of the commonest and most generally distributed species.

White-eyed Vireo. A breeding pair mentioned without comment. It is scarcely profitable to even speculate what these birds could have been. We cannot accept the identification as given without more evidence. If corroborated this would be a most extraordinary record for the locality.

Thrushes. The writer's account of the status and relative abundance of the various species of Thrushes is hardly recognizable to others familiar with the birds of the region. That the Wood Thrush should be recorded without hesitation so far from its normal range on ear identification alone indicates little knowledge of avian probability or realization of ornithological responsibility.

With this amount of obvious error it is evident how little reliance can be placed in the list as a whole.

P. A. TAVERNER.

*Victoria Memorial Museum,
Ottawa, Canada,
November 3, 1926.*

NOTES AND NEWS.

FRANK HALL KNOWLTON, elected an Associate of the American Ornithologists' Union at its first meeting in 1883 and a Member in 1902, died at his home in Ballston, Va., after a brief illness, November 22, 1926, at the age of 66.

He was the son of Julius Augustus and Mary Ellen Knowlton and was born at Brandon, Vt., September 2, 1860. He was educated at Middlebury College, where he received the degree of B.S. in 1884, M.S. in 1887, and hon. Sc.D. in 1921. He also received the degree of Ph.D. from Columbian, now George Washington University, in 1896.

Knowlton early became interested in natural history, both botany and zoology, and at the age of 18 published his first paper on 'A Partial List of the Birds of Brandon, Vt.,' in a local newspaper, 'The Brandon Union' for Dec. 13, 1878. Four years later he published in the same paper 'A Revised List' of 149 species found in the vicinity of his home, and during the next few years contributed several papers on birds to the 'Bulletin of the Nuttall Ornithological Club' and 'The Auk.' In 1894, with Dr. Richmond, he published a paper on the 'Birds of South Central Montana' containing notes on 111 species observed in 1888 and 1890. To ornithologists, Dr. Knowlton was known chiefly as the author of 'The Birds of the World,' which appeared in 1909, following in general the classification of Robert Ridgway. This book, one of the best in its field, still remains a valuable work of reference.

In 1884, Knowlton removed to Washington, D. C., where he successively held the positions of aid, asst. curator in botany, and asst. paleontologist in the U. S. National Museum; and paleontologist, and since July 1, 1907, geologist in the U. S. Geological Survey. Between 1884 and 1889 his work was primarily concerned with recent plants, and in later years with paleobotany. He was Professor of botany in Columbian University from 1887 to 1896 and in 1897 established 'The Plant World' of which he was editor for seven years. He published one of the additions to the Flora of the District of Columbia and wrote many of the botanical definitions for the 'Century Dictionary' and the new edition of 'Webster's Dictionary' and the 'Jewish Encyclopaedia.' He assumed entire responsibility for the botanical matter in the 'Standard Dictionary' for which he prepared about 25,000 definitions.

Knowlton's chief work, however, was in the field of paleobotany in which he published a number of monographs and two important catalogues. Among these were Fossil Floras of the Yellowstone National Park in 1899, the Montana Formation in 1900, the John Day Basin in 1902, 'Laramie Flora of the Denver Basin' in 1922, Catalogues of Cretaceous and Tertiary Plants in 1898, and Mesozoic and Cenozoic Plants of North America in 1919. His latest work 'Plants of the Past,' a popular account

of fossil forms, on which he was engaged in reading proof at the time of his death, is now in press.

For many years Dr. Knowlton suffered from asthma, which at times almost incapacitated him temporarily, but in spite of this handicap he took an active part in scientific work and was a member of a number of organizations. For many years, he was a member of the Botanical and Biological Societies of Washington and served 13 years as treasurer of the latter Society and two years as its president. He also served as vice-president of the Washington Academy of Sciences and the Geological Society of America, and as president of the Geological Society of Washington and the Paleontological Society of America. He was popular among his associates and was always congenial. He was an easy and ready writer and apparently enjoyed such work, but with the handicaps under which he labored it was surprising how much he was able to accomplish in research and publication.—T. S. P.

DR. ALPHONSE JOSEPH CHARLES DUBOIS, elected in 1884 as a Corresponding Fellow of the American Ornithologists' Union, and in 1911 as an Honorary Fellow, died at his villa at Coxyde-sur-Mer, Belgium, June 1, 1921, at the age of 82. Although five years have elapsed since his death it is fitting to place on record in the pages of 'The Auk' a summary of his work and his more important contributions to ornithology.

He was born at Aix la Chapelle in 1839 and was the son of Charles Frédéric Dubois, who, about a year after his son's birth, moved to Brussels, Belgium. Here Alphonse received his education, graduating from the Free University of Brussels with the degree of Doctor of Medicine, and in 1869 was appointed Conservateur of the section of Higher Vertebrates in the Royal Museum of Natural History, a post which he filled with distinction until his retirement in 1914.

His first scientific publication on the 'Utility of certain Animals for the Country' appeared in the 'Belgique Horticole' in 1864. The list of his publications numbers more than 100 titles of which the following are some of the more important: The second series of 'Les Oiseaux d l'Europe et leurs Œufs,' 1861-72, completing the work begun by his father, who died in 1867; 'Conspectus systematicus et geographicus Avium Europæarum,' 1871; 'Revue des dernier Systemes Ornithologiques,' 1891; 'Faune des Vertébrés de la Belgique' (Oiseaux), 2 vols., 1876-94; 'Les Animaux nuisable de la Belgique (Vertébrés),' 1893; 'Synopsis Avium,' 2 vols., 1899-1904; 'Remarques sur l'Ornithologie der l'Etat independent du Congo,' 1905. He also contributed monographs on the Pelecanidae, Musophagidae and Bucerotidae to Wytsman's 'Genera Avium.'

Dubois was the leading ornithologist of Belgium, and in 1914 received the title of 'President General Sociétés ornithologique de Belgique' on the completion of 50 years of scientific work, and after his retirement became Honorary Conservateur of the Royal Museum of Natural History. With the outbreak of the war in 1914 he retired to Coxyde-sur-Mer on the

unoccupied part of the Belgian coast, where he lived during the war and up to the time of his death.—T. S. P.

DR. RUDOLPH AMANDUS PHILIPPI, who was elected a Corresponding Fellow of the American Ornithologists' Union in 1884, died at Santiago, Chile, on July 23, 1904.

He was born on September 14, 1808, in Charlottenburg, near Berlin, Germany, where his father occupied a post at the Prussian court. At an early age he was sent, with his brother Bernard, to Yverdon to attend Pestalozzi's school. There the young Rudolph acquired a love of nature which endured till his death; and, from the outset, he made zoological and botanical collections during his leisure hours.

He entered the university in Berlin as a medical student, but, under the guidance of such professors as Link, Lichtenstein, Mitscherlich, Wiegmann, and Alexander von Humboldt, his interest in natural history became dominant, as his graduation thesis, '*Orthoptera berolinensia*,' indicates. After receiving his degree in 1830, he abandoned all idea of practicing medicine and went to Italy, where he studied the geology and conchology of Sicily. On his return to Germany he published his first important work, '*Enumeratio molluscorum Siciliæ*,' for which he was awarded a gold medal by Friedrich Wilhelm III, of Prussia.

In 1835 Doctor Philippi became professor of natural history and geography in a technological school in Cassel. He was successful as a teacher, for he possessed in a high degree the power of communicating his enthusiasm to his students. Save during a time when ill health led him to revisit Italy, he devoted himself to his work at Cassel until his connection with the political disturbances of 1848 brought his duties to an end.

Meanwhile Bernard Philippi had gone to Chile, where he was engaged in a scheme for the colonization of that country, and, in 1851, he persuaded his brother to join him. The death of Bernard Philippi in the following year, left Doctor Philippi in possession of a large estate near Valdivia. But his chosen career was not to be abandoned. His value as a scientist was soon realized, and in 1853 he was appointed professor of zoology and botany at the University of Chile and Director of the National Museum and of the Botanic Gardens.

He soon realized that natural sciences were not receiving the attention which was their due in the lower schools. He devoted himself to altering this condition, and finally succeeded in making natural history compulsory in the National Institute in Santiago. In an endeavor to increase the scanty collections of the National Museum, where Chilean fauna and flora were almost without representation, he accompanied an expedition to the desert of Atacama in 1853. His book, '*Reise durch die Wueste Atacama*,' was one of the results of the journey. During the succeeding years, and as the finances of the institution permitted, Doctor Philippi dispatched expeditions to the Strait of Magellan, the oceanic islands of Chile, and other regions considered worthy of especial attention.

His duties proving too onerous, by 1883 he had retired from all his positions save the directorship of the National Museum. As his interest in the museum was particularly strong, he remained in that office until 1896, when failing vision caused his retirement.

Although his time was well occupied by official duties, Doctor Philippi found opportunity for research work upon such new material as was acquired by the museum. His labors resulted in the publication of about 350 articles¹ dealing with nearly every branch of natural history. Twenty-three of his papers relate principally to birds. His most extensive ornithological work, 'Figuras i Descriptiones de Aves Chilenas,' appeared but two years before his death. Independently, and in collaboration with Luis Landbeck, Doctor Philippi described about 30 species of birds as new. Many of the names have since been relegated to synonymy, but his studies have done much to increase our knowledge of the Chilean avifauna.—M. E. McLellan.

HENRY JOHN ELWES, a Corresponding Fellow of the American Ornithologists' Union, elected in 1921, died at his home at Colesbourne, Gloucestershire, England, Nov. 26, 1922.

He was the son of John Henry Elwes of Colesbourne and was born May 16, 1846. According to Dr. R. Bowdler Sharpe "the record of Mr. H. J. Elwes constitutes as fine a display of energy and devotion to scientific work as any in the annals of English science. . . . He was educated first at Mr. Goldney's school at Tonbridge, where the present Lord Walsingham made the study of natural history the rage, and this doubtless had its influence in the after career of Mr. Elwes. After four years at Eton, he joined the Scottish Guards in 1865, and it was in 1863 and 1864 that he made his first expeditions in pursuit of natural history to the Orkney Islands" (Hist. Coll. Nat. Hist., B.M., II, p. 345, 1906).

In 1868 he spent three months in the Hebrides, in 1869 he accompanied Mr. T. E. Buckley to Greece, Turkey, and the Crimea, and in 1870 he retired from the Army with the rank of Captain and devoted his time to travel and the study of natural history. He went to India with Col. Barne and Col. F. Bridgman, and after hunting big game in Travancore visited the Terai and Darjiling, and later joined Dr. W. T. Blanford in an expedition to the Tibetan frontier, which, though unsuccessful in reaching its destination, resulted in the discovery of the Jelap-la Pass and the acquisition of valuable collections. In November he went to Assam and after an expedition to Kangra in the northwestern Himalayas returned to England in 1871. The results of his experience with Indian birds appeared in the 'Proceedings of the Zoological Society of London' for 1873. In the following year he made an expedition to Smyrna and Lycia, collecting both birds and plants. From this time on he became especially interested in horticulture and did little more in ornithology except his trips with

¹ Vide Fürstenberg, P., Verhandl. d. Deutschen Wiss. Ver., Santiago, V, pp. 233-269.

Seeböhm to Denmark and Holland in 1880, and an expedition to Siberia in 1898 to hunt wild sheep. Here he found the breeding place of Stejneger's Scoter (*Oedemia stejnegeri*). In 1879 he turned his attention to Lepidoptera, to which he devoted his attention for about 20 years, and in 1902 presented his collection of about 30,000 specimens to the British Museum. His collection of some 4000 birds is now in the Rothschild Museum at Tring.

Mr. Elwes made several visits to America. He went to Chile in 1901 and 1902 to collect plants and butterflies, and he made four trips to the United States. In 1888 on his return from Mexico, where he had been collecting birds and butterflies with his brother-in-law, Dr. F. D. Godman, he visited California, Oregon, and Yellowstone Park; in 1893 and in 1895 he visited the Rocky Mountains, Colorado, Montana, and Alberta; and in 1919 he again visited the United States.

After the death of his father in 1890 he settled on the family estate at Colesbourne, devoting his time mainly to horticulture. He published a monograph of the genus *Lilium* and a monumental work on the 'Trees of Great Britain and Ireland.' In 1884 he was the British Delegate to the International Congress of Botany and Horticulture at St. Petersburg. He also served as President of the Royal Arboricultural Society, Vice-president of the Royal Horticultural Society, in 1893 and 1894 as President of the Entomological Society of London, and at the time of his death was President of the British Ornithologists' Union.

Mr. Elwes was a man of remarkable energy, charming personality and unbounded enthusiasm and interest in natural history. Even at the age of 73, on his last trip to the United States, his activity and endurance were remarkable. An interesting account of his life illustrated by an excellent portrait, reproduced from a photograph taken shortly before his death, appeared in 'The Ibis' for Jan., 1923.—T. S. P.

SANFORD BALLARD DOLE, a Corresponding Fellow of the American Ornithologists' Union since its organization in 1883, and former President of the Republic of Hawaii, died in Honolulu, June 9, 1926, at the age of 82. Few men have filled more varied positions or seen greater changes in their surroundings than Judge Dole. Born in the Hawaiian Islands April 23, 1844, the son of Daniel and Emily Ballard Dole, American missionaries, he received his education at Oahu College in Hawaii and Williams College, Mass. He studied law and was admitted to the bar in Boston, and on May 19, 1873 married Miss Anna P. Cate, of Castine, Maine. Returning to Hawaii he entered the practice of law and became a member of the Legislature in 1884 and 1886, a judge of the Supreme Court from 1887 to 1893, head of the Provisional Government in 1893, and served as President of the Republic of Hawaii from 1894 to 1900. He was a strong advocate of annexation, and when this was accomplished was appointed Governor of the Territory of Hawaii in 1900, U. S. District Judge in 1903, and after 12 years' service retired from the bench in 1915.

Judge Dole was actively interested in ornithology and described a new genus and several new species of Hawaiian birds. His first paper published when he was 25 years of age was entitled a 'Synopsis of the Birds hitherto described from the Hawaiian Islands' which appeared in the 'Proceedings of the Boston Society of Natural History' in 1869 and contained 48 species, or about one-third of the number now known from the islands. This list was revised for the 'Hawaiian Almanach' for 1879, which appeared late in 1878, and included 53 species, four of them described as new. The descriptions of the new species, *Accipiter hawaii*, *Drepanis rosea*, *Fringilla anna*, and *Pennula mills* were reprinted in 'The Ibis' for 1880, p. 241. The last two species are of special interest. *Fringilla anna*, now known as *Ciridops anna*, was named in honor of his wife, while *Pennula mills*, a rail, and the type of the new genus *Pennula*, was named in honor of Mr. Mills of Hilo, who secured these and other specimens.

In recognition of his ornithological activities, Judge Dole was elected a member of the American Ornithologists' Union at the first meeting, but being at that time a resident of an independent country he was made a Corresponding Member. In recognition of his contributions two species of Hawaiian birds have been named in his honor, a Flycatcher or Elepaio (*Chasiempis dolei*), now regarded as a synonym of *C. sclateri*, and a Crested Honey Eater (*Palmeria dolei*).—T. S. P.

AUGUSTUS SAYRE KIBBE, an Associate of the American Ornithologists' Union since 1923, died at his home in Berkeley, Calif. on Aug. 21, 1926. He was born at Albany, New York, Aug. 8, 1865. In his death the A.O.U., as well as the Audubon Society of the Pacific and the Cooper Ornithological Club, with which he was more actively associated, have been deprived of a valued and valuable member. Mr. Kibbe was a civil engineer, specializing during much of his life in street railway work. He graduated from the Rensselaer Polytechnic Institute, Troy, New York, in 1886. Upon graduation he became Assistant Engineer in charge of the Champlain Canal Improvement, with headquarters at Fort Edward, New York. Later on, he had offices established consecutively at Albany, N. Y., in New York City, Philadelphia, Chicago, Reno, Nevada, and finally at Berkeley, California. From 1914 until his death he was consulting engineer with the Key System Transit Company, of the San Francisco Bay region, handling valuation and rate cases.

Mr. Kibbe's interest in birds dated from his boyhood, but the demands of a busy professional life and the absence of associates who were similarly inclined long barred any desire on his part to further his knowledge of ornithology. In 1917 the casual visit of Mr. and Mrs. Kibbe to the Museum of Vertebrate Zoology, at Berkeley, resulted in their being brought in touch with the Cooper Club and a little later with the Audubon Association of the Pacific and with the A.O.U. The associations thus formed were evidently what Mr. Kibbe had been hungering for, probably for years

past, and there developed therefrom all the joy, interest, and work that filled his spare time to overflowing during the remainder of his years. His own main interest in ornithology lay in the living bird and also in the conservation of bird life in general, of which he was a most enthusiastic upholder, but his love for the bird itself never obscured his appreciation of scientific work based upon bird specimens. A conservationist, yes, but one of wise judgment and sane view, and one in whose hands bird lover and bird student both were content to leave the adjustment of questions where their interests were involved. This is shown in the appearance of his name on practically every committee concerned with conservation appointed by the Audubon Association of the Pacific or by the Cooper Club for many years past.

Mr. Kibbe was a keen observer and most thorough and accurate in his work. His paper on "Aquatic Visitors to Lake Merritt, Oakland, California" (*Condor*, vol. 27, 1923, pp. 55-58) is an example of careful work, along the line that he enjoyed; his occasional brief writings in "The Gull" possess a happy touch that make one regret that he did not take his own literary ability more seriously. "A Western View of the Game Refuge Bill" (*Bull. American Game Protective Association*, vol. 14, Jan., 1925, pp. 5-6), was an excellent paper that was read at the 11th Annual Game Conference of the American Game Protective Association.

At the time of his death Mr. Kibbe was President of the Audubon Association of the Pacific and had been so for six years, and he was editor of "The Gull," published by that society. Beside his ornithological affiliations he was secretary of the California Societies for the Conservation of Wild Life, and member of the Sierra Club, of the Pacific Railway Club, and of the American Society of Civil Engineers.—H. S. SWARTH.

MRS. HIRAM BYRD, an Associate of the Union since 1918, died at Bradenton, Florida, October 14, 1926 and in compliance with her request, her body was committed to the sea about 12 miles outside of Tampa Bay. Her maiden name was Mary Elizabeth Burrell. Born at Walnut, Illinois, August 21, 1873, of New England parents, she removed to Florida with her family in 1886, and most of her life was spent in that state—at Ocala, Kissimmee, Jacksonville, Princeton, and Bradenton. In 1901, she was married to Dr. Hiram Byrd, who with their son Wallace, survive her.

She began the study of bird life about twelve years ago, and her love for birds deepened with the years until it became one of her most consuming interests and a source of pleasure to the end of her life. About two years ago she acquired a nearly complete set of "The Auk," and was engaged in reading it. She was not satisfied with acquiring information about the birds, but was constantly striving to do something for their preservation. This led to her appointment as chairman of the Committee on Conservation of the Florida Federation of Women's Clubs and it was largely through her efforts, together with those of her husband, that the Tamiami Bird Reservation was set aside in 1925. In 1924 she was elected General Secretary of the Florida Audubon Society, of which Dr. Byrd is President.

Mrs. Byrd kept accurate records of the birds she observed, and was keenly enthusiastic to make the acquaintance of species new to her list. Although she never published any notes, her letters were full of delightful anecdotes of the birds she had seen. Even during her last illness, which confined her to her bed for over a year, she wrote of the birds that came to cheer her. On November 19, 1925, she wrote: "I saw a Blackburnian Warbler in the guava tree close by my window, and an Indigo Bunting obligingly stopped in the oleander bush long enough for me to make her out. The Northern Water Thrush hung around our yard, for a long time and gave me most excellent gazes at him. I have close on to 200 on my local list, but need 3 or 4 more to make it."

Among her last words were these: "My body I bequeath to the plankton of the sea, to feed the little fishes—in turn to feed the birds. My work of conservation I bequeath to my husband and son and those who love me."

Mrs. Byrd was possessed of unusual charm and her enthusiasm was contagious. She made hosts of friends, who will feel her loss keenly. It is hoped that some of them will be able to carry on her unfinished work for bird protection in Florida.—ARTHUR H. HOWELL.

SAMUEL HENRY VANDERGRIFT, a Life Associate of the American Ornithologists' Union since 1918, died at Washington, D. C., September 21, 1926, after an illness of about three years when he suffered a stroke of paralysis.

Mr. Vandergrift was born in Oil City, Pa., June 30, 1866, and was the son of J. J. Vandergrift, a pioneer oil man and steel manufacturer of Pittsburgh, and a lineal descendant of John Hart, one of the signers of the Declaration of Independence. Mr. Vandergrift resided most of his life in Pittsburgh but for the last 18 years had made his home in Washington.

He was deeply interested in natural history and in outdoor sports, and was a member of the Audubon Society of Pittsburgh and of the Winous Point Shooting Club on Sandusky Bay, Lake Erie. He spent much time in studying local movements and relative abundance of the various species of Ducks which frequented this part of the Lake. On the grounds of the Winous Point Club and of the adjoining Ottawa Club extensive experiments have been made to eliminate the carp which infested these waters for the last forty years and had destroyed much of the Duck food. In these experiments Mr. Vandergrift took a deep personal interest as well as in other factors which affected the flight and seasonal abundance of migratory birds on this part of Lake Erie.—T. S. P.

BENJAMIN HARRY WARREN, an Associate of the American Ornithologists' Union and at one time State Ornithologist of Pennsylvania, died at his home in West Chester, Pa., on October 10, 1926 and in the 69th year of his age. Dr. Warren was born in Marshallton, Chester Co., Pa., on May 29, 1858, the only son of Dr. John L. Warren and Mary Supple Warren. He was

raised in an atmosphere which tended to stimulate his mental activities, coming in contact with many men of scientific and medical attainments. From early youth he evinced a marked interest in natural history and his preceptor was Benjamin M. Everhart the well-known botanist of West Chester. With the intention of following in his father's footsteps he studied medicine, graduating at Jefferson Medical College, Philadelphia, and for a time aided his father in his practice.

His interest, however, was always with birds, was chosen Ornithologist to the State Horticultural Society and later secured the appointment, under Governor Hastings, of Zoologist to the State Board of Agriculture, travelling all over the state collecting data for the notable volume on the 'Birds of Pennsylvania' which appeared in two editions in 1888 and 1890. Dr. Warren was always interested in politics and was involved in many contests at the capital which resulted in his loss of the position of Zoologist, though he was later appointed Dairy and Food Commissioner, a position which he filled with ability, and still later was employed on the Game Commission staff as lecturer, travelling over the state and speaking before grange and sportsmen's meetings. In the meantime he served for several years as director of the Everhart Museum at Scranton and was consultant of the DuPont Powder Co. in its campaign against Crows.

Dr. Warren was always interested in the economic side of ornithology and published some of the first detailed information on the food habits of Hawks and Owls, furnishing much data and many stomach specimens to the U. S. Biological Survey, while through his political influence he furnished valuable aid in having important conservation measures passed by the State Legislature. He was also in his latter years active in the West Chester Bird Club.

Besides his 'Birds of Pennsylvania,' he published a list of the 'Birds of Chester Co., Pa.,' in 'Forest and Stream,' 1879-80; three papers on the 'Economic Status of Hawks,' 1879-1885; one on the 'Crow Blackbird,' 1884; a newspaper list of Chester Co. birds, 1885, and an article in the 'American Field' on 'The Wild Pigeon' in the same year and in 1890 notes in 'Forest and Stream' on 'Rare Birds in Pennsylvania' including apparently the first record of the Evening Grosbeak for the state.

In 1897, in conjunction with Dr. Leonard Pearson, he prepared a voluminous report on the Diseases and Enemies of Poultry—the latter portion being Warren's contribution, and in 1896 published a pamphlet on taxidermy. Besides field work in Pennsylvania he made early trips to Florida and in his latter years spent much time on Wallop's Island, Va., where he was an active member of the Club and did much toward making this spot a reservation for song birds.

Dr. Warren was elected an Associate of the A.O.U. in 1886 and retained his membership until 1910. He was reelected in 1922 but he took no part in the Society's activities. Dr. Warren is survived by his wife who was Miss Etta Kremer of Lewisburg, Pa.—W. S.

HENRY KELSO COALE, an Associate Member of the American Ornithologists Union since 1883, died October 13th, 1926 at his home in Highland Park, Ill., after a brief illness. He was born in Chicago, February 28th 1858, a son of Isaac and Eliza Jane Kelso Coale, pioneer residents in that locality. He received his education in the local public schools, and at an early age became deeply interested in the study of birds and acquired a small collection in 1880. While later, in the employ of several mercantile houses, he devoted many of his spare hours roaming through the fields and marshes, at that time closely adjacent to the city. The Ridgway Ornithological Club was organized September 6th, 1883, and Coale was active in its formation and was its first secretary. He made two quite large collections of birds which were later sold, one being sent to the British Museum in 1880, but his last collection, consisting of over 11,000 skins of North American and foreign species, he retained up to the time of his death.

When the Field Museum was established after the Worlds Fair in 1894, Coale was given a position in the bird department with recommendations from Ridgway, Bendire and others, but he remained there only a few months.

During the Spanish-American war, Coale brought his inventive genius to play by manufacturing himself a compact officer's mess chest for army use. Large numbers of these were used in Cuba and western forts where he had friends among the officers, who later aided his collection with many birds.

For a number of years he was prominent in the real estate business and was a member of the board of education in his town, also a member of the Chicago Ornithological Society and the Wilson Club. His published articles and notes number about fifty, most of them having appeared in 'The Auk.'

Coale visited California in 1924 and 1926, and spent some weeks observing the birds of that State, making the acquaintance of ornithologists, and visiting the Museums. He was a tireless worker and midnight often found him busy in his museum and he had no greater pleasure than showing his collection to those mutually interested.

Coale was a fairly regular attendant at the annual meetings of the 'Union,' where his particular interests lay in meeting the new faces with whom he had corresponded, and in going over the museum collections to compare with his specimens brought for that purpose. For several years he had acquired many birds through exchange with foreign collectors.

His untimely loss will be felt by his many friends in the Middle West and elsewhere.

Mr. Coale was first married in 1883 to Miss Caroline Markham of California, whose death occurred in 1910. By this marriage there are one son and two daughters living. In 1924 he married Miss Irma Burdette of Chicago, who survives.—R. D.

VON HAAST'S BIRTHDAY—A Correction. In 'The Auk' for Oct. 1926, p. 576, attention was called to the different dates assigned by various authorities as the birthday of Sir Julius von Haast. In spite of all precautions another erroneous date was added to the list by a typographical error which made the date read May 1, 1882 instead of the correct year 1822.—T. S. P.

THE Baird Ornithological Club of Washington, D. C., was entertained on Oct. 29, 1926, by Mr. B. H. Swales in honor of its president Dr. Leonard Stejneger. In view of the fact that the following day was the 75th anniversary of Dr. Stejneger's birth a special meeting was arranged with a program devoted to a review of some of the events of his life. Dr. Alexander Wetmore presided, Dr. Palmer mentioned briefly some of Dr. Stejneger's activities as ornithologist, herpetologist, fur seal commissioner, and member of the International Commission on Zoological Nomenclature, and Dr. Bartsch by means of a reflectoscope exhibited a unique series of pictures showing Dr. Stejneger at various ages, his parents, and the house where he was born. Explanations of some of the pictures were added by Dr. Stejneger himself. Refreshments were served in the dining room which was decorated for Hallowe'en and the place of each guest at the table was marked by an appropriate souvenir. Altogether the anniversary celebration was unique and one long to be remembered by those who were fortunate enough to be present.

THE RIDGWAY MEMORIAL CAMPAIGN.—Plans for the Ridgway Memorial received further impetus at the American Ornithologists' Union meeting recently held in Ottawa, Ontario. As is now well known this memorial will be a sanctuary for birds and other wild life—a tribute to Mr. Ridgway's services to science and to wild life preservation. Few ornithologists indeed have so richly deserved the love and gratitude of their fellow-men.

Mr. Ridgway's tract of land, known as "Bird Haven," situated near Olney, in southern Illinois, will be turned over by him to the Ridgway Memorial Association now incorporated under the laws of Illinois, for preservation and perpetual care.

In order to carry out this plan a fund of \$35,000 is necessary. The project has been thoroughly endorsed by the American Ornithologists' Union, the Cooper Ornithological Club of California, and the Wilson Ornithological Club. The Committee appointed to take charge of raising this amount consists of Dr. Harry C. Oberholser, of the United States Biological Survey, Washington, D. C., Chairman, representing the American Ornithologists' Union; Mr. Harry Harris, Box 123, Eagle Rock, California, representing the Cooper Ornithological Club; and Mr. Percival B. Coffin, 39 South LaSalle Street, Chicago, Illinois, representing the Wilson Ornithological Club.

The active campaign for the fund is about to be launched and all persons interested in wild life conservation as well as all bird lovers are urged to

contribute. Let us all thus assure the perpetuation of Bird Haven as a wild life refuge and at the same time repay our debt to Robert Ridgway.

Remittances should be made out to the Ridgway Memorial Fund and may be sent to any member of the committee above mentioned.

A PRIZE of \$25.00 is to be awarded annually at Franklin and Marshall College, Lancaster, Pa., for the best examination in Ornithology. It is established by William Foster Jones of San Diego, Calif. The ornithological course at the College covers 36 lectures and field work and is conducted by Prof. Herbert H. Beck.

THE National Association of Audubon Societies, held its 22nd annual meeting in New York City, October 25 and 26. The report of the President, Dr. T. Gilbert Pearson, throws an interesting light on the scope of the Association's activities. We quote, "The tendencies affecting the fortunes of wild bird and animal life in America have not greatly changed since last year. Most species of small birds are doubtless on the increase and large game animals, in many sections, continue to show a disposition to increase to the full extent of the range they occupy. Wild fowl are reported as holding their own or gaining over large areas of North America, despite the annual toll taken by gunners and the perfectly enormous economic waste of their bodies as a result of alkali and perhaps algae poisoning in the northwestern states and Canada."

"During the year, officers, directors and members of the Association have given public addresses before audiences in many parts of the country. In addition the Association has employed and kept in the field, a large part of the time, seven special lecturers. In this period more than 1,500 lectures and talks to combined audiences of not less than a quarter of a million listeners have been given under the Association's influence."

As further indicating the extent of the Association's educational work is the enrollment, during the year, of 327,776 Junior Club members, both in public and private exchools, as well as among troops of Girl and Boy Scouts, the total enrollment, since the beginning of this work, being 3,065,120.

The protection given colonies of nesting sea birds, as well as Egrets and other members of the Heron family, has been continued through the employment of special wardens. Approximately 130,000 of these birds and their nests have received protection in this manner. Many thousands of wild Ducks and Geese have likewise received protection on the Paul J. Rainey Sanctuary on the Louisiana coast, which consists of 26,000 acres, and is owned and administered by this Society.

The Association now has 8,875 adult members as well as 120 affiliated organizations.

The report issued by the Auditor shows a surplus in all funds. The total income for the year was \$257,083 and the balance sheet now shows assets of over \$925,000, of which \$809,454 is represented by Permanent Endowment.

A JOINT COMMITTEE representing the Mass. Audubon Society, the Mass. Fish and Game Protective Association and the Federation of the Bird Clubs of New England, Inc., has been recently formed under the name of the 'Associated Committees for Wild Life Conservation.' The officers are John L. Saltonstall, chairman; Laurence B. Fletcher, secretary; and George C. Warren, treasurer. The object of the organization is to avoid duplication of effort and insure greater efficiency in the work in which all are interested. Each organization will continue to work on the special matters which interest it above while "their combined efforts will greatly assist those causes to which all three are devoted."

THE SNOWY OWL FLIGHT.

The extent of this winter's flight of Snowy Owls and Goshawks seems to warrant a careful record of the occurrence of these and other northern species. If observers will send in to the Editor a summary of their records of these birds during the present winter with as many definite dates and notes as habits, etc., as possible the reports will be combined in a general article which will appear later in 'The Auk.'

WITH this issue 'The Auk' enters upon the forty-eighth year of its existence. It is in good health and in full winter plumage. In the autumnal molt it got rid of some of the financial burdens that have recently hampered its activities, and while still incapable of flight it hopes to move along at its accustomed pace without serious difficulty. While food in the form of manuscripts is abundant, strict attention must be paid to diet, to avoid excessive growth and attendant financial ailments. Leading Articles should not exceed 8000 words and General Notes should be made as concise as possible or they must submit to serious surgical operations by the Editor. All manuscripts must await their turn and no definite time for publication can be guaranteed, although papers of immediate interest or discoveries of importance may be given preference.

The Editor does the best he can in the time at his disposal and tries to cooperate to the fullest extent with the contributors, but other pressing duties sometimes make prompt replies to correspondence impossible. For this he would humbly apologize.

He further hopes that the contributors and readers get even half as much pleasure from their contact with the "Ancient and Honorable Fowl" as the Editor does in his association with them, and to one and all he extends best wishes for the coming year.